



General catalog  
7th edition



Your local distributor

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Serum

Cell Culture Media

Salt Solutions

Antibiotics

Cell Culture Reagents  
& other products



# COMPANY PROFILE

KEY PLAYER FOR CELL CULTURE

## 4 commitments

Quality  
Efficiency  
Transparency  
Traceability

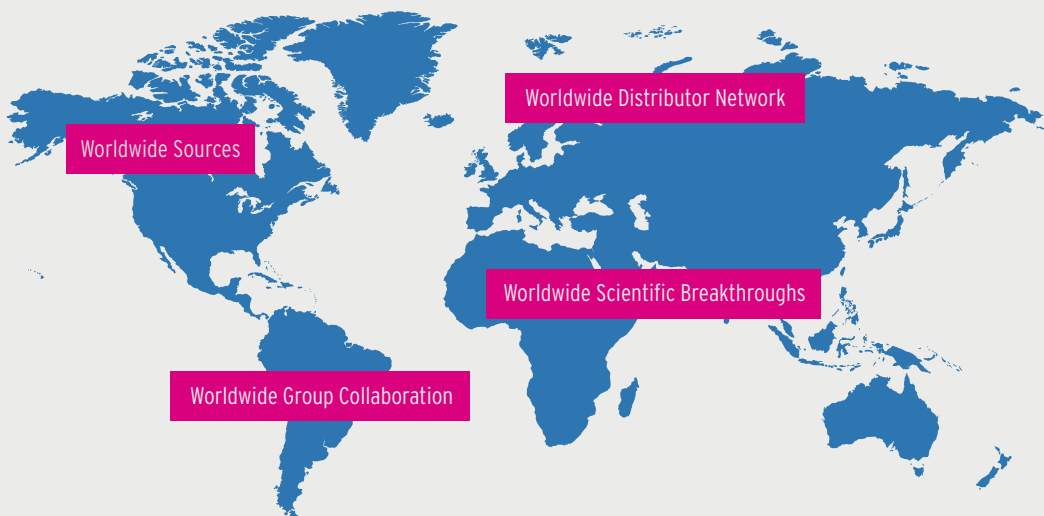
European leader in the collection of animal sera.

Quality, efficiency and transparency commitments have made Biowest a European leader for over 30 years. Combined with a fully integrated supply chain and confident distributor network around the world, Biowest has earned the trust of the life science industries.

All around the world, people need to be treated for different medical conditions. However, we first need to understand the biological pathway which occurs in our very complex human body.

In vitro cell culture has been an amazing advancement, allowing us to reproduce the same mechanisms that occur in vivo and to test the effect of different substances in a particular cell line. The use of in vitro cell culture has been responsible for reducing the unnecessary use of live animals for research, disease diagnosis, and the manufacture of vaccines. Cell culture techniques have also allowed the development of medical innovations, such as gene therapy and stem cell therapy. Remarkable developments have been made possible thanks to the availability and the quality of cell culture reagents.

Biowest is proud to be a key player in this field for over 30 years, by providing a large range of quality products.




Serum

Cell Culture Media

Salt Solutions

Antibiotics

Cell Culture Reagents  
& other products



Biowest offers a wide range of sera sources from multiple countries. Biowest is your guarantee of the best choice of serum origin and specifications, adjusted to your needs.

Biowest controls the production of sera throughout the entire process, from collection locations around the world, to the final shipment of bottled serum from our warehouse. Thus guaranteeing a vertically integrated system of production and documentation.

Biowest has been a real partner in scientific breakthroughs for over 30 years.

2007

Takahashi K., Tanabe K., Ohnuki M., Narita M., Ichisaka T., Tomoda K., Yamanaka S.,  
**Induction of Pluripotent Stem Cells from Adult Human Fibroblasts by Defined Factors**, Cell 131, 861-872. **Nobel Prize 2012 winning article on Stem Cells by Dr Yamanaka.**

2009

Funakoshi-Tago M., Tanabe S., Tago K., Itoh H., Mashino T., Sonoda Y., Kasahara T., **Licochalcone A Potently Inhibits Tumor Necrosis Factor  $\alpha$ -Induced Nuclear Factor- $\kappa$ B Activation through the Direct Inhibition of I $\kappa$ B Kinase Complex Activation**, Molecular Pharmacology 76, 745-753.

2016

Sanchez-Mejias E., Navarro V., Jimenez S., Sanchez-Mico M., Sanchez-Varo R., Nuñez-Diaz C., Trujillo-Estrada L., Davila JC., Marisa Vizuete, Gutierrez A, Vitorica J., **Soluble phospho-tau from Alzheimer's disease hippocampus drives microglial degeneration**, Acta Neuropathol. 132(6), 897-916.

2011

Sato Y, Iketani M, Kurihara Y, Yamaguchi M, Yamashita N, Nakamura F, Arie Y., Kawasaki T, Hirata T, Abe T, Kiyonari H, Strittmatter SM, Goshima Y, Takei K., **Cartilage acidic protein-1B (LOTUS), an endogenous Nogo receptor antagonist for axon tract formation**, Science 333(6043), 769-73.

2002

Cronie L., Defamie N., Dupays L., Theveniau-Ruissy M., Goffin F., Pointis G., Malassine G.A., **Connexin expression and gap junctional intercellular communication in human first trimester trophoblast**, Mol Hum Reprod. 11, 1005-13.



Find articles referenced  
and other articles on:  
**[www.biowest.net](http://www.biowest.net)**

Our people around the world work with a strong commitment to quality, reproducibility, traceability and service.

### Quality system

Using specialized equipment and detailed SOP audits, Biowest ensures quality at every stage, thereby securing a consistently high quality product with low intra-lot variation. We are ISO 9001 and ISO 13485 certified. Biowest is registered by the French Ministry of Agriculture (Regulation (EC) n° 1069 / 2009) under the agreement n° FR 49.231.001 for the production of animal sera.

According to the European Regulation EC n° 999/2001, european animals are tested for BSE before the corresponding blood is allowed to be processed.

The EU is a pioneer in BSE testing and individual identification of animals through ear tagging. This ensures the best possible traceability and the lowest BSE risk. Consequently the EU origin is the first choice for researchers in Japan and other selective markets.

### Working on your request

With our unmatched knowledge of cell culture products, Biowest has the special ability to support specific customer needs. Our R&D laboratory can customize formulations according to the specific needs of your research. Together, we can define every aspect of your custom-made product from beginning to end.

### Technical support

The experienced Technical Service Staff of Biowest is available to answer questions regarding our quality control and all Biowest products.

➤ We aim to provide timely, courteous and professional service.



# S E R U M



## Legend

### State

Liquid 

Powder 

Frozen 

## Storage and shipping condition

Temperature  Room temp.  +8°C  -20°C

Shelf life, in months  24 m

## CHAPTER SUMMARY

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## About serum

The biomedical sciences have existed for one century. During the last 30 years only, millions of scientific articles have been made possible thanks to serum. For years, serum has been a needed growth supplement for a large percentage of cell lines. Today, serum is required in basic research, target/drug discovery, drug development, and clinical diagnostic applications. Serum provides nearly all the components required for both adherent and suspension cell cultures, most of which are not yet chemically defined, such as growth factors, attachment factors, transporter proteins, lipids and hormones. Fetal Bovine Serum is the most widely used supplement for in vitro mammalian cell culture. It has affected almost all parts of the life science industry.

### Value chain

When scientists select their sera, an important factor taken into consideration is the source. Therefore, traceability of the serum is of paramount importance. Biowest guarantees compliance with the ethics code established by the serum industry, along with all regulatory obligations.

Each manufactured batch is rigorously controlled, from the collection of the serum and throughout all stages of its treatment and production, to the final packaging on our premises. The product is analyzed, classified, and tested by Biowest before being shipped to customers all over the world.

Our Quality System can trace raw materials back to the original supplier and slaughterhouse where they were collected. By controlling the entire collection and manufacturing processes, as well as using state-of-the-art IT software, Biowest guarantees the accuracy of geographic origin and all other data stated on the Certificate of Analysis.

### Worldwide sourcing

Biowest offers a wide range of sources from countries with excellent veterinary status. This includes sources from South America, as well as European

Union (EU) and United States Department of Agriculture (USDA) approved sources. The choice of the FBS source is determined by import requirements and available supply for the different markets.

Biowest is the ideal partner for academic researchers and biopharmaceutical companies who select FBS based on origin and performance.

### Filtration & Packaging

Raw pooled serum is filtered through a triple series of 0.1 micron sterilizing filters for FBS. The sterile filtered serum is true-pooled to ensure homogeneity. Biowest products are packaged via an aseptic filling process, for which each step has been carried out to ensure products meet industry sterility standard assurance level of  $10^{-4}$  (i.e., product that demonstrates a bacterial and fungal contamination level of no more than 1 of 10,000 units during the manufacturing process). The highest level of sterility assurance ( $\geq 10^{-6}$ ) cannot be achieved without terminal sterilization. Filtration and dispensing are performed within positive pressure, HEPA-filtered, environmentally controlled rooms.

## Quality Control tests

### Sterility

All sera are tested for the absence of aerobic and anaerobic bacteria, fungi and yeast. The sterility test procedure is based on the European Pharmacopoeia or US Pharmacopoeia, depending on the location of final filtration. Products are dispensed via an aseptic process to ensure that all Biowest products achieve the highest Sterility Assurance Level. A representative number of samples from each production batch is selected for Sterility testing.

### Mycoplasma

Each final product batch is tested for the absence of mycoplasma. The sera are tested for the absence of Mycoplasma using a cell culture assay in Axcell Biotechnologies media by culture method. Our test is accurate within the limits of the detection method used.

### Haemoglobin

A quantitative and colorimetric assay is performed to determine the residual haemoglobin concentration in each product/batch.

### Cell Culture Testing

Each batch of FBS is tested for its ability to support in vitro growth of specific cell lines. Therefore, in addition to verifying that each batch of sera passes our exacting quality control specifications, three important performance criteria are evaluated in our Quality Control Program:

- Growth Promotion
- Cloning Efficiency
- Plating Efficiency

Biological performance is assessed using cell culture medium supplemented with a final concentration of 10% serum. During the test period, cultures are examined microscopically for any morphological abnormalities that may indicate toxic components in the serum.

The following cell lines are utilized to determine growth promotion and functionality for FBS:

Cell Line	Type	Species
HELA	Cancer	Human
L929	Fibroblast, Macrophage	Mouse
SP2/0-AG14	Lymphoma	Mouse
MRC-5	Lung	Human



### Endotoxin Test (LAL)

All sera are tested to determine and quantify endotoxin levels. Biowest conducts a chromokinetic quantitative test, method D of the European Pharmacopoeia.

### Total Protein

Protein detection	Methodology
Protein	Biuret Colorimetry
Albumin	Immunoturbidimetry
Globulin	Immunoturbidimetry

### Osmolality

Osmolality is determined by a lowered freezing temperature. The osmometer is calibrated using traceable standards.

### pH

All pH meters are calibrated daily with standard solutions.

### Other test

For example Bovine Spongiform Encephalopathy (BSE) is tested for bovine derived material. According to the European Regulation EC n° 999/2001, animals are tested for BSE before the corresponding blood is allowed to be processed. The EU is a pioneer in BSE testing and individual identification of animals through ear tagging. This ensures the best possible traceability and the lowest BSE risk. Consequently the EU origin is the first choice of researchers in Japan and other selective markets.

Test	Prionics	Bio-Rad
Method	Western Blot	ELISA

### Virus Testing

Depending on the species of the serum, each batch of serum is tested for adventitious viruses using cell culture techniques.

Sera are tested for the absence of the indicated viruses by inoculation with GBK cells. The detection of virus is made by indirect immunofluorescence.

Antibody Testing : the presence of specific antibodies is detected utilizing an ELISA Assay. For example, the serum from equidae is tested for the presence of Equine Infectious Anemia antibodies.

### Storage

All Biowest products have labels indicating storage conditions, batch number, and expiry date.

Optimal product performance is guaranteed, when the product is stored properly. Animal Sera and Plasma are stored at -20°C.

### Expiration Date

The shelf life for animal Serum is 60 months, and for animal plasma 48 months.

### Intended Use

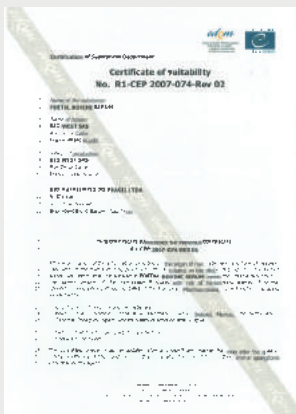
These products are intended for research applications. It is the end user's responsibility to qualify these products for their specific application. These products are not for diagnostic use. The safety and efficacy of these products in diagnostic or other clinical uses have not been established.

## Certifications

### European Directorate for the Quality of Medicines

EDQM certified FBS is your guarantee that the origin and the manufacturing process of the product have been certified by the European Directorate for the Quality of Medicines & HealthCare. The EDQM protects and promotes public and animal health in Europe. Its mission is to contribute to the basic human right of access to good quality medicines and healthcare, and to promote and protect human and animal health. This goal is achieved by establishing and providing official standards for the manufacture and quality control of medicines valid in all the signatory states of the Convention for the Elaboration of a European Pharmacopoeia.

Biowest can provide sterile filtration and the packaging of serum in its own facility. That meets the criteria described in the current version of the product monograph, without the risk of transmitting agents of animal spongiform encephalopathies, n° 1483 of the European Pharmacopoeia. This is certified by the EDQM. The countries of origin of EDQM certified FBS are Panama, Costa Rica, Uruguay, Paraguay, Brazil, Chile, Mexico, Europe, Columbia, USA. We are also EDQM certified for calf serum from France.



### ISIA

Biowest is also fully certified by the International Serum Industry Serum (ISIA) Traceability Audit Process. This certification verifies that Biowest sera are manufactured under the highest traceability standards, offering quality and performance for your research.

### ESPA

Biowest is also an active member of ESPA (European Serum Products Association), whose purpose is to promote the safe use of serum, connect companies of the serum processing industry in the EU and Non-EU countries, and to represent their interests.

**For more information :** [www.serumproducts.eu](http://www.serumproducts.eu)

### How does Biowest works?

FBS "quality" is defined in relation to the growth promotion characteristics of specific cell lines when cultured in our sera. A batch of FBS which works well for one cell line may not work well for another cell line. Biowest customers can purchase FBS after performance-testing of a sample has been completed. There are thousands of different cell lines and each batch of FBS is unique: we therefore offer a Sample and Reserve policy. Each batch is delivered with a Certificate of Analysis.

Biowest is pleased to provide free samples of different batches combined with batch reservations during the test period, for up to 4 to 6 weeks. The general sample size for FBS is 50 ml/batch.

After batch testing, the reservation must be confirmed with an initial order. For customers who do not have ample storage facilities, we can store the reserved batch for up to 12 months, combined with scheduled shipments.

**>CoA + free sample for batch testing + storage**

### Invitation to Customer

Traceability is a component of ISO audits. Each batch of sterile serum is controlled internally, beginning with the importation of raw serum, all the way through to final filtration and labeling. Copies of all documentation are available in paper and electronic formats. Biowest invites customers to follow a bottle and batch of serum back to the abattoirs and countries from where the raw serum was collected, and to confirm the harvesting of raw serum, all the way forward to the finished batch of sterile serum. We invite you to become familiar with Biowest's certifications, traceability system, and integrated controls (QA SOPs, SAP) as part of a traceability audit.



FBS

Fetal Bovine Serum (FBS) is the most widely used supplement for in vitro mammalian cell culture. FBS is an extremely complex mixture which allows growth promoting and growth inhibiting activities necessary to maintain cell lines in an in vitro environment. Biowest Fetal Bovine Serum is derived from clotted whole blood, aseptically collected from bovine foetuses via cardiac puncture.

FBS South America

Cat N°	Unit/Size		 -20°C	 60 m
S1810 - 100	100 ml			
S1810 - 500	500 ml			

FBS EU ORIGIN

S1400 - 100	100 ml		 -20°C	 60 m
S1400 - 500	500 ml			

FBS USA

S1520 - 100	100 ml		 -20°C	 60 m
S1520 - 500	500 ml			

FBS USDA APPROVED

S1600 - 100	100 ml		 -20°C	 60 m
S1600 - 500	500 ml			

FBS URUGUAY

S1580 - 100	100 ml		 -20°C	 60 m
S1580 - 500	500 ml			

Product  
available for  
China only

FBS SOUTH AFRICA ORIGIN

S1300 - 100	100 ml		 -20°C	 60 m
S1300 - 500	500 ml			



# HIGHEST QUALITY FETAL BOVINE SERUM

## FBS PREMIUM

By using FBS Premium, our customers save time in their daily work: they avoid time consuming batch testing. FBS Premium is a collection of high quality batches, selected on excellent and defined values for essential data:

- Endotoxin level < 5 EU/ml
- Hemoglobin level < 25 mg/100 ml
- Growth promotion > 80% guaranteed\*

By respecting those criteria, we ensure you a low batch-to-batch variation.

**Avoid losing time in batch testing, use FBS Premium.**

FBS South America, Premium

Cat N°	Unit/Size			
S181B - 100	100 ml	❄️	🌡️ -20°C	⌚ 60 m
S181B - 500	500 ml			

FBS EU Origin, Premium

Cat N°	Unit/Size			
S140B - 100	100 ml	❄️	🌡️ -20°C	⌚ 60 m
S140B - 500	500 ml			

see page 10

\* on 4 Cell lines : SP2/O-Ag14, HELA, L929 and MRC-5

## FBS ULTRA LOW

FBS Ultra Low has a guaranteed endotoxin level of < 0.1 EU/mL and is suitable for most sensitive cell cultures or other applications that could be disturbed by high endotoxin levels. It has the same high quality standards as our other sera, and it is triple 0.1µm filtered and tested for virus and mycoplasma contamination.

FBS South America, Ultra-low endotoxin

Cat N°	Unit/Size			
S1860 - 100	100 ml	❄️	🌡️ -20°C	⌚ 60 m
S1860 - 500	500 ml			

■ Other packagings available on request.

Serum

Cell Culture Media

Salt Solutions

Antibiotics

Cell Culture Reagents  
& other products






## SPECIALITY FETAL BOVINE SERUM

Specialty FBS is semi-processed FBS or sterile filtered FBS that has been subjected to one or more modification processes, or that has been enhanced or altered in some way. Biowest offers the following specialty FBS products:

### Heat Inactivation (56°C-30 mn)

This treatment destroys 'complement' and thus avoids interference with some experimentation, in particular immunology tests. It also inactivates viruses and destroys some bacterial contaminants such as the mycoplasma.

FBS South America, Heat inactivated

Cat N°	Unit/Size		 -20°C	 60 m
S181H - 100	100 ml			
S181H - 500	500 ml			

**To order this treatment for any other serum using code H**  
please replace the last number of its Cat N° by the letter H

### Gamma Irradiation

Gamma irradiated serum minimizes the risk associated with the use of animal products and offers protection against low levels of microbial contaminants. The treatment inactivates viruses of potential concern, such as foot and mouth disease, vesicular stomatitis, rinderpest, peste des petits ruminants, Rift valley fever, bluetongue... while maintaining growth promotion potential. The serum is gamma irradiated on a regular basis at 25 kGy and other doses are available upon request.

FBS South America, Gamma Irradiated

Cat N°	Unit/Size		 -20°C	 60 m
S181G - 100	100 ml			
S181G - 500	500 ml			

**To order this treatment for any other serum using code G**  
please replace the last number of its Cat N° by the letter G

### Charcoal stripping

Biowest offers Charcoal/Dextran stripped Fetal Bovine Serum for researchers requiring low levels of hormones. Charcoal / Dextran stripping reduces the concentration of steroid hormones in serum such as estradiol, progesterone, cortisol, testosterone, T3 and T4. This serum is useful where the endogenous molecules may interfere with experimental research.

FBS South America, Charcoal stripped

Cat N°	Unit/Size		 -20°C	 60 m
S181F - 100	100 ml			
S181F - 500	500 ml			

**To order this treatment for any other serum using code F**  
please replace the last number of its Cat N° by the letter F



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### Dialysation

Dialysis reduces the concentration of free low molecular weight components such as nucleotides, amino acids, hormones and ions. We use a dynamic filtration method to produce our dialysed serum. The sera are dialysed using a 10 000 molecular weight cut-off membrane.

#### FBS South America, Dialysed

Cat N°	Unit/Size			
S181D - 100	100 ml	❄️	🌡️ -20°C	⌚ 60 m
S181D - 500	500 ml			

**To order this treatment for any other serum using code D**  
please replace the last number of its Cat N° by the letter D

### Lipid depletion

Biowest uses the fumed silica precipitation method for removing lipids. The fumed silica powder is added to the serum. It is well mixed together, after which the solution is centrifuged. The supernatant contains the serum and the lipids are with the silica in the pellet.

#### FBS South America, Lipid Depleted

Cat N°	Unit/Size			
S181L - 100	100 ml	❄️	🌡️ -20°C	⌚ 60 m
S181L - 500	500 ml			

**To order this treatment for any other serum using code L**  
please replace the last number of its Cat N° by the letter L

### Iron supplementation

A 1% Ferric Citrate sterile solution is added to the serum at 0.246% (v/v). Then the serum is mixed well. Transferrin is normally 20 to 40 % bound to iron.

#### FBS South America, Iron Supplemented

Cat N°	Unit/Size			
S181R - 100	100 ml	❄️	🌡️ -20°C	⌚ 60 m
S181R - 500	500 ml			

**To order this treatment for any other serum using code R**  
please replace the last number of its Cat N° by the letter R

### Low IgG depleted

IgG depleted serum is treated with a proprietary chromatography method. This treatment reduces the level of IgG for which Biowest guarantees ultra low IgG levels <5ug/ml.

#### FBS South America, IgG Depleted

Cat N°	Unit/Size			
S181I - 500	500 ml	❄️	🌡️ -20°C	⌚ 60 m




**To order this treatment for any other serum using code I**  
please replace the last number of its Cat N° by the letter I



### Exosome depletion

Exosome depleted serum is treated with our proprietary ultrafiltration method. This treatment depletes the microvesicles naturally present in the serum. Biowest guarantees at least  $\geq 95\%$  depletion of exosomes.

FBS South America, Exosome Depleted



Cat N°	Unit/Size		 -20°C	 60 m
S181M - 050	50 ml			
S181M - 100	100 ml			
S181M - 500	500 ml			

**To order this treatment for any other serum using code M**  
please replace the last number of its Cat N° by the letter M

### Tetracycline Free

The serum is tested for the presence of Chlortetracycline, Oxytetracycline and Tetracycline by a liquid chromatography electrospray ionisation tandem mass spectrometry method.  
The detection limit is  $< 0.05$  mg/l.

FBS South America, Tetracycline Free

Cat N°	Unit/Size		 -20°C	 60 m
S181T - 100	100 ml			
S181T - 500	500 ml			

**To order this treatment for any other serum using code T**  
please replace the last number of its Cat N° by the letter T

### Embryonic Stem Cells

The serum is tested to confirm a high growth factor content. Cell growth is studied during two passages with mouse embryonic stem cell E14 cell line.  
The validation criteria are the cell growth and the perfect morphology of the cells.

FBS South America, Embryonic Stem Cells tested

Cat N°	Unit/Size		 -20°C	 60 m
S181S - 100	100 ml			
S181S - 500	500 ml			

**To order this treatment for any other serum using code S**  
please replace the last number of its Cat N° by the letter S

# BOVINE SERUM ALBUMIN - BSA

Albumin is the main protein in blood plasma. Albumin is used as a protein standard, stabilizer and blocking agent or buffering agent. BSA plays a major role in numerous biological applications. Bovine serum albumin (BSA) is commonly used to increase the stability of cell membranes and to bind toxic substances.







The main role of BSA in cell culture is to be a carrier of small molecules. Because of its negative charge, BSA binds water, salts, fatty acids, vitamins and hormones, and then carries these bound components between tissues and cells. The binding capacity of

BSA makes it an effective scavenger to remove toxic substances, including pyrogens, from the medium. BSA is produced using a unique patented method derived from the « Heat shock» method.







## Bovine Serum Albumin Lyophilised pH ~7

Cat N°	Unit/Size		 +8°C +2°C	 36 m
P6154 - 100 GR	100 g		 +8°C +2°C	 36 m
P6154 - 500 GR	500 g			
P6154 - 1 KG	1 kg			





## Bovine Serum Albumin Protease Free

Cat N°	Unit/Size		 +8°C +2°C	 36 m
P6155 - 100 GR	100 g		 +8°C +2°C	 36 m
P6155 - 500 GR	500 g			
P6155 - 1 KG	1 kg			

## Bovine Serum Albumin Fatty Acids Free

Cat N°	Unit/Size		 +8°C +2°C	 36 m
P6156 - 100 GR	100 g		 +8°C +2°C	 36 m
P6156 - 500 GR	500 g			
P6156 - 1 KG	1 kg			

## Bovine Serum Albumin 30 % liquid

Cat N°	Unit/Size		 +8°C +2°C	 36 m
A0296 - 100	100 ml		 +8°C +2°C	 36 m
A0296 - 500	500 ml			
A0296 - 1000	1000 ml			



Other species available on request.

BSA charcoal stripped available on request.

## ANIMAL SERUM

> All Animal sera can be treated, please inquire about the possibilities

### Bovine Serum (France Origin)

Cat N°	Unit/Size			
S0250 - 100	100 ml		-20°C	60 m
S0250 - 500	500 ml			

### Lamb Serum

Cat N°	Unit/Size			
S2300 - 500	500 ml		-20°C	60 m

### Calf Serum

S0400 - 500	500 ml			
			-20°C	60 m

### Sheep Serum

S2350 - 500	500 ml			
			-20°C	60 m

### New Born Calf Serum

S0750 - 500	500 ml			
			-20°C	60 m

### Pig Serum

S2400 - 500	500 ml			
			-20°C	60 m

### Horse Serum

S0910 - 500	500 ml			
			-20°C	60 m

### Chicken Serum

S0500 - 500	500 ml			
			-20°C	60 m

### Donor Horse Serum

S0900 - 100	100 ml			
S0900 - 500	500 ml			

### Rabbit Serum

S2500 - 500	500 ml			
			-20°C	60 m

### Donor Foal Serum

S0800 - 500	500 ml			
			-20°C	60 m

### Rat Serum

S2150 - 020	20 ml			
S2150 - 050	50 ml			
S2150 - 100	100 ml			
S2150 - 500	500 ml			

### Donkey Serum

S2170 - 100	100 ml			
S2170 - 500	500 ml			

### Mouse Serum

S2160 - 020	20 ml			
S2160 - 050	50 ml			
S2160 - 100	100 ml			
S2160 - 500	500 ml			

### Goat Serum

S2000 - 100	100 ml			
S2000 - 500	500 ml			

### Cat (Feline) Serum

S2800 - 100	100 ml			
			-20°C	60 m

### Guinea Pig Serum

S2450 - 010	10 ml			
S2450 - 100	100 ml			

■ Other species available on request.

■ Other packaging available on request.

## ANIMAL PLASMA

Bovine Plasma w/Sodium Citrate

Cat N°	Unit/Size			
S0260 - 500	500 ml		-20°C	48 m

Rat Plasma w/Lithium Heparin

S2140 - 100	100 ml		-20°C	48 m
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Mouse Plasma w/Lithium Heparin

S2162 - 100	100 ml		-20°C	48 m
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Other species available on request.

Other packaging available on request.

## HUMAN SERUM, PLASMA & ALBUMIN

**Human serum** «off-the-clot» is processed from human blood that has coagulated. It is collected from volunteer donors. Each batch is rigorously controlled and screened for Hepatitis B (HBS), Hepatitis C (HCV) and HIV Type 1 and 2 (HIV1/2).

Our **human sera** are mainly sourced in Europe and Canada.

**Important :** Products of human origin should be considered potentially infectious and handled accordingly.

Human Serum AB male HIV tested

Cat N°	Unit/Size			
S4190 - 100	100 ml		-20°C	60 m

Human Serum HIV tested

S4200 - 100	100 ml		-20°C	60 m
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Human Plasma pooled

S4180 - 100	100 ml		-20°C	48 m
S4180 - 500	500 ml			

Human Serum Albumin

P6140 - 100 GR	100 g		+8°C +2°C	48 m
P6140 - 500 GR	500 g			
P6140 - 1 KG	1 kg			

Human Serum Converted

S4140 - 100	100 ml		-20°C	48 m
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Human Serum is available with treatments (see pages 14-15).

Please contact us so we can make your custom made product on request.

## SERUM REPLACEMENT

FreeAdd is a chemically defined substitute for animal serum. It provides the necessary nutritional support for cell growth, development and expression. It is free from animal and human origin growth factors, non defined components such as hydrolysates, and has an ultra low (recombinant) protein content. FreeAdd performs equally as well or better than animal serum in cell cultures, and can be used for most cell lines, stem cells, primary cells and insect cells.

Benefits :

- Prevents potential virus contamination
- Multiple packaging options
- No batch variation
- Supply reliability

FreeAdd IX

Cat N°	Unit/Size			
S6010 - 050	50 ml		+8°C +2°C	12 m

# CELL CULTURE MEDIA

## Legend

### State

Liquid 

Powder 

Frozen 

## Storage and shipping condition

Temperature  Room temp.  +8 °C  
+2  -20 °C

Shelf life, in months  24 m

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## About Cell Culture Media

### Standard Media

Biowest media formulations are manufactured following original publications, standards set by the Tissue Culture Association and accepted formulations. Formulations may vary from these standards by substituting hydrated, chlorinated and/or the salt forms of certain compounds where such substitutions contribute to improved performance of the product.

### Custom Made Formulations

The preparation and production of customized cell culture components is another of our services. When given the list of components needed and the corresponding quantities, we will produce the media to your requirements. There may be a short delay for this service.

### Quality Assurance

All of the chemicals, raw materials and equipment that we use are of the highest quality. Inorganic chemicals are analytical, ACS, USP, EP, FCC grade or otherwise the finest grade available. All other components are evaluated by standards established by Biowest.

All new batches of chemicals are introduced into the process, only after stringent QC. The water used for media preparation is of the highest quality. It is purified water produced in several steps, including centrifugal distillation and testing for endotoxins. The resistivity is measured in-line and all values are monitored and recorded by the QC department. The water is always freshly processed and cooled down to 20°C before adding the powder media.

### Equipment and conditions

All equipment used for the manufacturing of powdered and liquid media are made of chemically inert materials which will not contaminate the final product. For nearly 30 years, Biowest has supplied the cell culture industry, following strict environmental conditions regarding cleanliness and moisture. Humidity and temperature are monitored constantly to guarantee that all chemicals are ground into fine powder. The sterilization of liquid media is carried out by going through a 0.1 µm pore size sterile filter.

### Batch size

Batch sizes for powdered media range from 1 to 10,000 liters, and for liquid media from 1 to 1,500 liters.

### Testing the Final Product

The powder media are tested physically for osmotic effects and pH. Osmolality is determined by the freezing point method. The chemical composition and the homogeneity of the mixture are controlled by analysis of glucose or sodium in the sample.

### Advantages and use of powdered tissue culture media

While liquid media are convenient to use, there are several drawbacks which make powdered media also attractive:

- 1 Long term studies can be carried out using a single batch of powdered medium
- 2 Longer storage time
- 3 Reduces the unit costs by 3-10 times
- 4 Storage space is greatly reduced

### The advantages of liquid media

- 1 Lower labour costs
- 2 Quality control and functional testing
- 3 Stock inventory is easier to control

Endotoxin testing is performed using the Limulus Amoebocyte test. The chromokinetic test is used to verify the quality of the medium. The liquid media are tested for sterility, pH and osmolality. The biological performance test is done on different cell lines for each type of media. The endotoxin level is also tested by a chromokinetic test.

### Storage and Stability

Powdered media must be stored at 2-8°C or at room temperature in their original containers and in dry, dark conditions. Heat, light and humidity can greatly affect the performance of powdered media, therefore we recommend that left over powder be stored correctly. Liquid media must be stored at 2-8°C or at room temperature in the dark.

The protocols for all processing steps and the final test results, reassure the customer that each batch meets the specific criteria and has been manufactured to the product specifications. The retained samples also allow further testing in long term shelf-life studies, as well as quality control testing in response to customer inquiries.



# Basal medium eagle - BME

The Basal Medium Eagle (BME), developed by Harry Eagle, is one of the most widely used of all synthetic cell culture media. There are several “basal” culture media described by Eagle that vary slightly from one another. The Tissue Culture Association recommends using the name “Basal Medium Eagle” to describe only the formula developed to support HeLa cells. The Basal Medium Eagle, when properly completed, has demonstrated broad applicability for supporting single layer growth of a wide variety of normal and transformed cell lines. BME is the predecessor of Eagle Minimum Essential Medium (MEM) and Dulbecco Modified Eagle Medium (D-MEM). This is the simplest of the basic media with all the essential components for cell growth. Basal Medium Eagle (BME) ideally favors cell lines such as HeLa, L-cells and primary mammalian fibroblasts.

Basal Medium Eagle is principally used for diploid or primary cell cultures.

BME W/Earle's Salts w/o L-Glutamine

Cat N°	Unit/Size			
L0042 - 500	500 ml		 +8°C +2°C	 24 m

BME W/Earle's Salts w/L-Glutamine w/o Sodium Bicarbonate

Cat N°	Unit/Size			
P0030 - N1L	For 1L		 +8°C +2°C	 48 m

Composition  
available [p. 57](#)

- Other packagings available on request.
- For your special formulation, please contact us so we can make your custom made Media on request.

## CMRL 1066

CMRL media was originally developed by Connaught Medical Research Laboratories for the growth of Earle's “L” cells under serum-free conditions. CMRL media is also especially useful for cloning monkey kidney cells and for the growth of many other mammalian cell lines when supplemented with horse or calf serum.

CMRL 1066 w/L-Glutamine w/o Sodium Bicarbonate

Cat N°	Unit/Size			
P0058 - N1L P0058 - N10L	For 1L For 10L		 +8°C +2°C	 24 m

Composition  
available [p. 58](#)

- Other packagings available on request.
- For your special formulation, please contact us so we can make your custom made Media on request.

## DULBECCO'S MODIFIED EAGLE MEDIUM - DMEM

The DMEM medium is a modification of the BME which contains a higher concentration of amino acids, vitamins and other additives. DMEM is for supporting and maintaining a vast range of mammalian cell types. There are two types of DMEM: one with a high glucose content (4.5g/L), and the other with a low glucose content (1.0g/L). The DMEM low glucose has been developed for the culture of mouse embryonic cells.

### DMEM HIGH GLUCOSE

DMEM High Glucose w/o L-Glutamine w/o Sodium Pyruvate

Cat N°	Unit/Size			
L0101 - 500	500 ml		+8°C +2°C	24 m

DMEM High Glucose w/ L-Glutamine w/o Sodium Pyruvate

L0102 - 500	500 ml		+8°C +2°C	12 m
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DMEM High Glucose w/ stable Glutamine w/ Sodium Pyruvate

L0103 - 500	500 ml		+8°C +2°C	24 m
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DMEM High Glucose w/ L-Glutamine w/ Sodium Pyruvate

L0104 - 500	500 ml		+8°C +2°C	12 m
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DMEM High Glucose w/o L-Glutamine w/ Sodium Pyruvate

L0106 - 500	500 ml		+8°C +2°C	24 m
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DMEM High Glucose w/o L-Glutamine  
w/ 25mM Hepes w/o Sodium Pyruvate

L0100 - 500	500 ml		+8°C +2°C	24 m
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DMEM High Glucose w/ stable Glutamine  
w/ 25mM Hepes w/o Sodium Pyruvate

L0107 - 500	500 ml		+8°C +2°C	24 m
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DMEM High Glucose w/ L-Glutamine  
w/o Sodium Bicarbonate w/ Sodium Pyruvate

P0102 - N1L P0102 - N10L	For 1L For 10L		+8°C +2°C	36 m
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DMEM High Glucose w/ L-Glutamine  
w/o Sodium Bicarbonate w/o Sodium Pyruvate

P0103 - N1L P0103 - N10L	For 1L For 10L		+8°C +2°C	36 m
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Composition  
available **p. 59**

Other packagings available on request.

For your special formulation, please contact us  
so we can make your custom made Media on request.



DMEM LOW GLUCOSE

DMEM Low Glucose w/ L-Glutamine w/ Sodium Pyruvate

Cat N°	Unit/Size			
L0060 - 500	500 ml		+8°C +2°C	12 m

DMEM Low Glucose w/o L-Glutamine w/ Sodium Pyruvate

L0064 - 500	500 ml		+8°C +2°C	24 m
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DMEM Low Glucose w/ L-Glutamine  
w/ Sodium Pyruvate w/ 25 mM Hepes

L0065 - 500	500 ml		+8°C +2°C	12 m
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DMEM Low Glucose w/ Stable Glutamine w/ Sodium Pyruvate

L0066 - 500	500 ml		+8°C +2°C	24 m
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DMEM Low Glucose w/ L-Glutamine  
w/o Sodium Bicarbonate w/ Sodium Pyruvate

P0061 - N1L P0061 - N10L	For 1L For 10L		+8°C +2°C	36 m
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Composition  
available **p. 60**

- Other packagings available on request.
- For your special formulation, please contact us  
so we can make your custom made Media on request.

DMEM - HAM'S F12

The DMEM Ham's F12 offers excellent performance for certain epithelial, endothelial and granuloze cell types. With proper supplementation, it is a highly successful basic media for serum free cell culture.

DMEM - F12 w/o L- Glutamine w/o Hepes

Cat N°	Unit/Size			
L0090 - 500	500 ml		+8°C +2°C	24 m

DMEM - F12 w/o L-Glutamine w/o Hepes w/o Glucose

L0091 - 500	500 ml		+8°C +2°C	24 m
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DMEM - F12 w/ stable Glutamine w/ 15 mM Hepes

L0092 - 500	500 ml		+8°C +2°C	24 m
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#### DMEM - F12 w/ L-Glutamine w/ 15 mM Hepes

Cat N°	Unit/Size			
L0093 - 500	500 ml		+8°C +2°C	12 m

#### DMEM - F12 w/o L-Glutamine w/ 15 mM Hepes

L0094 - 500	500 ml		+8°C +2°C	24 m
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#### DMEM - F12 w/ L-Glutamine w/ 25 mM Hepes

L0095 - 500	500 ml		+8°C +2°C	12 m
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#### DMEM - F12 w/o L-Glutamine w/ 25 mM Hepes

L0096 - 500	500 ml		+8°C +2°C	24 m
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#### DMEM - F12 w/ L-Glutamine w/o Sodium Bicarbonate w/ 15 mM Hepes

P0095 - N1L	For 1L		+8°C +2°C	36 m
P0095 - N10L	For 10L			

Composition  
available [p. 61-62](#)

Other packagings available on request.

For your special formulation, please contact us  
so we can make your custom made Media on request.

## GLASGOW MEM BHK 21

Glasgow Minimum Essential Medium was originally developed by Ian MacPherson and Michael Stoker as a modification of Eagle's medium (BME). The modifications included adding 10% tryptose phosphate and twice the normal concentration of amino acids and vitamins.

This medium was used to study the genetic factors affecting cell competence. Polyoma virus was used to transform four fibroblast clones from a culture of baby hamster kidney cells.

## DMEM HIGH GLUCOSE

#### GMEM BHK 21 w/ L-Glutamine w/o Tryptose Phosphate Broth

Cat N°	Unit/Size			
L0221 - 500	500 ml		+8°C +2°C	12 m

#### GMEM BHK 21 w/ L-Glutamine w/o Sodium Bicarbonate w/o Tryptose Phosphate Broth

P0120 - N1L	For 1L		+8°C +2°C	36 m
P0120 - N10L	For 10L			

Composition  
available [p. 63](#)

Glasgow MEM media are only available with a minimum order quantity of 20 bottles x 500 ml.

Other packagings available on request.

For your special formulation, please contact us  
so we can make your custom made Media on request.



## HAM'S F10 / F-10 NUTRIENT MEDIUM

Ham's F10 is used to support the growth of Chinese Hamster Ovary cells under serum free conditions and other mammalian cell types with serum supplementation. It is a popular medium for growth of fastidious cell lines.

Ham's F10 w/ L-Glutamine w/25 mM Hepes

Cat N°	Unit/Size			
L0130 - 500	500 ml		 +8°C +2°C	 12 m

Ham's F10 w/ L-Glutamine

L0140 - 500	500 ml		 +8°C +2°C	 12 m
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Ham's F10 w/o L-Glutamine

L0145 - 500	500 ml		 +8°C +2°C	 24 m
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Ham's F10 w/ L-Glutamine w/o Sodium Bicarbonate

P0146 - N1L P0146 - N10L	For 1L For 10L		 +8°C +2°C	 36 m
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Composition  
available **p. 64**

Other packagings available on request.

For your special formulation, please contact us  
so we can make your custom made Media on request.

## HAM'S F12 / F-12 NUTRIENT MEDIUM

Ham's F12 was originally developed for the serum-free clonal growth of Chinese Hamster Ovary (CHO) cells, lung cells and mouse L-cells. It is the medium of choice for supporting the growth of cells of rodent origin (particularly rabbit and rat) and has proved to be an excellent cloning medium for the culture of myeloma and hybrid cells (hybridomas).

Ham's F12 w/ L-Glutamine

Cat N°	Unit/Size			
L0135 - 500	500 ml		 +8°C +2°C	 12 m

Ham's F12 w/o L-Glutamine

L0136 - 500	500 ml		 +8°C +2°C	 24 m
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Ham's F12 w/ L-Glutamine w/o Sodium Bicarbonate

P0134 - N1L P0134 - N10L	For 1L For 10L		 +8°C +2°C	 36 m
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Composition  
available **p. 65**

Other packagings available on request.

For your special formulation, please contact us  
so we can make your custom made Media on request.

## HAM'S F14 / F-14 NUTRIENT MEDIUM

Ham's F14 medium was developed from the Ham's F12, which was originally developed for the serum-free clonal growth of Chinese Hamster Ovary (CHO) cells, lung cells and mouse L-cells. Ham's F14 contains a double concentration of amino acids compared to the Ham's F12. This product is also supplemented with Calcium Chloride and Ascorbic Acid.

Ham's F14 w/ 6g/L glucose w/ 1mg/L ATP

Cat N°	Unit/Size			
L0138 - 500	500 ml		+8°C +2°C	24 m

Composition  
available **p. 66**

■ Other packagings available on request.

■ For your special formulation, please contact us  
so we can make your custom made Media on request.

## ISCOVE'S MODIFIED DULBECCO'S MEDIUM - IMDM

Iscoves media are enriched modifications of DMEM containing sodium selenite. They are excellent for rapidly proliferating high-density cell cultures. The addition of BSA, purified human transferrin and soybean lecithin creates a serum free condition ideal for supporting B and T lymphocytes. IMDM was the first media utilizing HEPES buffer. Other cell types can be cultured using this medium under serum free or reduced serum conditions.

IMDM w/ L- Glutamine w/ 25mM Hepes

Cat N°	Unit/Size			
L0190 - 500	500 ml		+8°C +2°C	12 m

IMDM w/stable Glutamine w/ 25mM Hepes

Cat N°	Unit/Size			
L0191 - 500	500 ml		+8°C +2°C	24 m

IMDM w/o L-Glutamine w/o Hepes

Cat N°	Unit/Size			
L0192 - 500	500 ml		+8°C +2°C	24 m

IMDM w/ L-Glutamine  
w/o Sodium Bicarbonate w/ 25 mM Hepes

Cat N°	Unit/Size			
P0191 - N1L P0191 - N10L	For 1L For 10L		+8°C +2°C	36 m

DMEM w/ L-Glutamine  
w/ 25 mM Hepes w/o Phenol Red

Cat N°	Unit/Size			
P0192 - N1L P0192 - N10L	For 1L For 10L		+8°C +2°C	36 m

Composition  
available **p. 67**

■ Other packagings available on request.

■ For your special formulation, please contact us  
so we can make your custom made Media on request.



## LEIBOVITZ L-15 MEDIUM

The Leibovitz L-15 media were formulated to promote the cell growth in medium not balanced in CO<sub>2</sub>. The formulations were developed with the sodium bicarbonate buffer. The Leibovitz L-15 media are buffered by a complement of salts, free base amino acids and galactose, so they can be used under conditions of free gaseous exchange with the atmosphere. When properly supplemented, L-15 Medium supports established cell lines, such as HEp-2 and LLC-MK2, as well as primary explants of embryonic and adult human.

Leibovitz L15 Medium w/o L-Glutamine

Cat N°	Unit/Size			
L0300 - 500	500 ml		 +8°C +2°C	 24 m

Leibovitz L15 Medium w/ L-Glutamine

Cat N°	Unit/Size			
P0350 - N1L P0350 - N10L	For 1L For 10L		 +8°C +2°C	 36 m

Composition  
available **p. 68**

- Other packagings available on request.
- For your special formulation, please contact us so we can make your custom made Media on request.

## MC COY'S 5A MEDIUM

Mc Coy's media were originally formulated for growth and support of lymphocytes. This final modification produced a medium identical to RPMI 1629. McCoy's 5A media support the indefinite proliferation of Walker 256 carcinoma cells. In addition, it is excellent for the propagation of leukocytes, biopsy tissues, a broad range of human and rat normal or transformed cell types, the most current primary and continuous cell lines.

McCoy's 5A w/ L-Glutamine

Cat N°	Unit/Size			
L0210 - 500	500 ml		 +8°C +2°C	 12 m

McCoy's 5A w/ L-Glutamine w/o Sodium Bicarbonate

Cat N°	Unit/Size			
P0390 - N1L P0390 - N10L	For 1L For 10L		 +8°C +2°C	 36 m

Composition  
available **p. 69**

- Other packagings available on request.
- For your special formulation, please contact us so we can make your custom made Media on request.

## MEDIUM 199

This complex medium was developed specifically for nutritional research of chicken fibroblasts. Today, 199 media are widely used for the maintenance of non-transformed cells, vaccine and virus production and primary explants of epithelial cells.

The media can be formulated either with Earle salts or Hanks Salts. The media formulated with the Earle salts are buffered with a bicarbonate / carbonic acid solution and retain their pH in a CO<sub>2</sub> incubator. The use of the Earle salts under ambient conditions results in a rapid rise in the pH of the culture medium.

The media formulated with the Hanks salts are buffered with saline solutions designed for balancing in ambient conditions, and their use in a CO<sub>2</sub> incubator results in a rapid drop in the pH of the culture medium.

Medium 199 w/ Hanks' Salts w/ L-Glutamine

Cat N°	Unit/Size			
L0330 - 500	500 ml		+8°C +2°C	18 m

Medium 199 w/ Earle's Mod. Salts w/ L-Glutamine  
w/ 1.25g/l Sodium Bicarbonate

L0355 - 500	500 ml		+8°C +2°C	18 m
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Medium 199 w/ Earle's Salts w/o L-Glutamine

L0356 - 500	500 ml		+8°C +2°C	24 m
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Medium 199 w/ Earle's Salts w/ stable Glutamine  
w/ 25 mM Hepes

L0361 - 500	500 ml		+8°C +2°C	24 m
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Medium 199 modified w/ Hanks' Salts w/o L-Glutamine  
w/o Sodium Bicarbonate

P0410 - N1L P0410 - N10L	For 1L For 10L		+8°C +2°C	36 m
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Medium 199 w/ Earle's Salts w/ L-Glutamine  
w/o Sodium Bicarbonate

P0420 - N1L P0420 - N10L	For 1L For 10L		+8°C +2°C	36 m
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Medium 199 w/ Earle's Salts w/ L-Glutamine  
w/o Sodium Bicarbonate w/ 25 mM Hepes

P0425 - N1L P0425 - N10L	For 1L For 10L		+8°C +2°C	36 m
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Composition  
available [p. 70-71](#)

Other packagings available on request.

For your special formulation, please contact us  
so we can make your custom made Media on request.



## MINIMUM ESSENTIAL MEDIUM - MEM

A modification of BME featuring increased amino acid levels to more closely resemble the protein content of human cells. MEM serves as a general-use medium, ideal for the growth and maintenance of a wide range of mammalian cell types. MEM is often used to support anchorage-dependent cells, however modified solutions can be used to support other cell types including calcium-free MEM for suspension cultures and MEM with Hanks' salts for diploid cells.

## MEM W/ EARLE'S SALTS

Minimum Essential Medium (MEM) with Earle's Balanced Salts is a modification of Eagle's earlier Basal Medium (BME) which contains a higher concentration of essential nutrients. These media promote the growth of a variety of normal and transformed cells. Since they contain Earle's Balanced Salts, they are suitable for use in atmospheres charged with CO<sub>2</sub> gas.

MEM w/ Earle's Salts w/ L-Glutamine

Cat N°	Unit/Size			
L0415 - 500	500 ml		 +8°C +2°C	 12 m

MEM w/ Earle's Salts w/ stable Glutamine

L0416 - 500	500 ml		 +8°C +2°C	 24 m
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MEM w/ Earle's Salts w/o L-Glutamine w/ NEAA

L0430 - 500	500 ml		 +8°C +2°C	 24 m
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MEM w/ Earle's Salts w/o L-Glutamine

L0440 - 500	500 ml		 +8°C +2°C	 24 m
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MEM w/ Earle's Salts w/ L-Glutamine w/ 25 mM Hepes

L0444 - 500	500 ml		 +8°C +2°C	 12 m
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MEM w/ Earle's Salts w/o L-Glutamine w/ 25 mM Hepes

L0445 - 500	500 ml		 +8°C +2°C	 24 m
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MEM w/ Earle's Salts w/ L-Glutamine  
w/ NEAA w/o Sodium Bicarbonate

P0450 - N1L P0450 - N10L	For 1L For 10L		 +8°C +2°C	 36 m
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MEM w/ Earle's Salts w/ L-Glutamine  
w/o NEAA w/o Sodium Bicarbonate

P0451 - N1L P0451 - N10L	For 1L For 10L		 +8°C +2°C	 36 m
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Composition  
available **p. 72**

- Other packagings available on request.
- For your special formulation, please contact us so we can make your custom made Media on request.

## MEM W/ HANKS' SALTS

Minimum Essential Medium (MEM) is a modification of Eagle's earlier medium Basal Medium Eagle (BME). This MEM w/ Hanks' Salts formulation contains Hank's salts for use without CO<sub>2</sub>.

MEM w/ Hanks' Salts Solution w/o L-Glutamine

Cat N°	Unit/Size			
L0465 - 500	500 ml		+8°C +2°C	24 m

MEM w/ Hanks' Salts w/o L-Glutamine w/ 25 mM Hepes

L0470 - 500	500 ml		+8°C +2°C	24 m
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MEM w/ Hanks' Salts w/ L-Glutamine  
w/ NEAA w/o Sodium Bicarbonate

P0515 - N1L P0515 - N10L	For 1L For 10L		+8°C +2°C	36 m
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Composition  
available **p. 73**

Other packagings available on request.

For your special formulation, please contact us  
so we can make your custom made Media on request.

## MEM ALPHA MODIFICATION

MEM  $\alpha$  is a modification of Minimum Essential Medium (MEM) that contains non-essential amino acids, sodium pyruvate, thioctic acid, vitamin B12, biotin, and ascorbic acid. MEM  $\alpha$  - Modification can be used with a variety of suspension and adherent mammalian cells, including keratinocytes, primary rat astrocytes, and human melanoma cells.

MEM Alpha w/ L-Glutamine w/o Ribonucleosides w/o Deoxyribonucleosides

Cat N°	Unit/Size			
L0475 - 500	500 ml		+8°C +2°C	12 m

MEM Alpha w/o L-Glutamine w/o Ribonucleosides  
w/o Deoxyribonucleosides

P0476 - 500	500 ml		+8°C +2°C	24 m
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MEM Alpha Modification w/ Earle's Salts w/ L-Glutamine  
w/o Sodium Bicarbonate

P0440 - N1L P0440 - N10L	For 1L For 10L		+8°C +2°C	36 m
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Composition  
available **p. 74**




Other packagings available on request.

For your special formulation, please contact us  
so we can make your custom made Media on request.



## RPMI 1640 MEDIUM

RPMI are general purpose enriched media with extensive applications for a broad spectrum of mammalian and hybridoma cells, including human myeloma, mouse hybridoma, human leukocytes, and B and T lymphocytes. It was originally formulated for suspension cultures and monolayer culture of human leukemia cells.

### RPMI 1640 w/ L-Glutamine

Cat N°	Unit/Size			
L0500 - 500	500 ml			

### RPMI 1640 w/o L-Glutamine

L0501 - 500	500 ml			
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### RPMI 1640 w/ stable Glutamine

L0498 - 500	500 ml			
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### RPMI 1640 w/ L-Glutamine w/ 25 mM Hepes

L0495 - 500	500 ml			
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### RPMI 1640 w/ stable Glutamine w/ 25 mM Hepes

L0496 - 500	500 ml			
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### RPMI 1640 w/o L-Glutamine w/ 25 mM Hepes

L0490 - 500	500 ml			
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### RPMI 1640 Dutch Modification w/o L-Glutamine w/ 1g/l Sodium Bicarbonate w/20mM Hepes

L0492 - 500	500 ml			
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### RPMI 1640 w/o L-Glutamine w/o Folic Acid

L0503 - 500	500 ml			
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### RPMI 1640 w/o L-Glutamine w/o Phenol Red

Cat N°	Unit/Size			
L0505 - 500	500 ml			

### RPMI 1640 w/ L-Glutamine w/o Sodium Bicarbonate

P0860 - N1L	For 1L			
P0860 - N10L	For 10L			

### RPMI 1640 w/o L-Glutamine w/o Sodium Bicarbonate

P0870 - N1L	For 1L			
P0870 - N10L	For 10L			

### RPMI 1640 w/ L-Glutamine w/o Sodium Bicarbonate w/o Phenol Red

P0880 - N1L	For 1L			
P0880 - N10L	For 10L			

### RPMI 1640 w/o L-Glutamine w/o Sodium Bicarbonate w/o Phenol Red

P0871 - N1L	For 1L			
P0871 - N10L	For 10L			

### RPMI 1640 w/ L- Glutamine w/o Sodium Bicarbonate w/ 25 mM Hepes w/o Phenol Red

P0876 - N1L	For 1L			
P0876 - N10L	For 10L			

### RPMI 1640 w/ L-Glutamine w/o Sodium Bicarbonate w/o Glucose

P0883 - N1L	For 1L			
P0883 - N10L	For 10L			

- Other packagings available on request.
- For your special formulation, please contact us so we can make your custom made Media on request.

Composition  
available p. 75-76

## SCHNEIDER'S DROSOPHILA MEDIUM

Schneider's Insect medium was developed to support the growth of excised Imaginal Discs from the fruit fly, *Drosophila melanogaster*. When supplemented with 5-20% heat-inactivated fetal bovine serum, Schneider's medium has been found to support the rapid growth of both primary and established cultures of cells derived from *Drosophila* spp. and several other dipterans.

Schneider's Drosophila Medium

Cat N°	Unit/Size			
L0207 - 500	500 ml		+8°C +2°C	12 m

Composition  
available [p. 77](#)

- Other packagings available on request.
- For your special formulation, please contact us so we can make your custom made Media on request.

## SERUM REDUCED MEDIA - MCDB

These media were formulated as a reduced serum supplemented medium for the cultivation of human microvascular endothelial cells. For other microvascular cells, it is recommended to be used with growth factors, like EGF or hormones like hydrocortisone.

MCDB 151

Cat N°	Unit/Size			
L1203 - 500	500 ml		+8°C +2°C	12 m

Composition  
available [p. 78](#)

- MCDB media are only available with a minimum order quantity of 50 bottles x 500 ml.
- Other packagings available on request.
- For your special formulation, please contact us so we can make your custom made Media on request.

## SPECIAL MEDIA

Biowest distributes products from the company Cytogen for karyotyping. It is a common method in human genetics to analyze chromosomes (metaphases) and detect abnormalities, such as trisomies and/or structural defects or other defects. The classical karyotyping has proven successful in all areas of genetics over the years, from prenatal and postnatal diagnostics to tumor cytogenetics. Karyotyping is not only important in the classification of tumors, but also in their follow-up occurrence.

Amniogrow Plus Medium

Cat N°	Unit/Size			
AGM - 100M	100 ml		-20°C	24 m

Lymphogrow Medium

LGM - 100	100 ml		-20°C	12 m
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MarrowGrow Medium

MGM - 100	100 ml		-20°C	24 m
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Prenaplus Medium

PPM - 100	100 ml		-20°C	24 m
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## Instructions

### How to store your product

Store the dry powdered medium at 2-8°C under dry conditions, and liquid medium at 2-8°C in the dark.

Deterioration of the powdered medium may be recognized by any or all of the following:

- **Color change**
- **Granulation / clumping**
- **Insolubility**

Deterioration of liquid media may be recognized by any or all of the following:

- **pH change**
- **Precipitate or particulates throughout the solution**
- **Cloudy appearance**
- **Color change**

The nature of supplements added to the medium may affect its storage conditions and shelf life. The product label bears the expiration date.

### How to prepare your solution from powder media

Powdered Media are extremely hygroscopic and should be protected from atmospheric moisture. The entire content of each package should be closed immediately after opening. Preparing a concentrated solution of medium is not recommended since

precipitates may form.


Supplements can be added prior to filtration or introduced aseptically to sterile medium. The nature of supplements added to the medium may affect its storage conditions and shelf life.

1. Measure out 90% of the initial required volume of water. Water temperature should be 15 - 20 °C.
2. While gently stirring the water, add the powdered medium. Stir until dissolved. Do not heat.
3. Rinse original package with a small amount of water to remove all traces of powder. Add to solution in step 2.
4. Supplement the medium according to your needs. For sodium bicarbonate and L-glutamine see pages 52-54
5. While stirring, adjust the pH of the medium to 0.1 - 0.3 pH units below the desired pH since it may rise during filtration. The use of 1N HCl or 1N NaOH is recommended.
6. Add additional water to bring the solution to final volume.
7. Sterilize immediately by filtration using a membrane with a porosity of 0.22 microns or less.
8. Aseptically dispense medium into sterile container.

# SALT SOLUTIONS

## Legend

### State

Liquid 

Powder 

Frozen 

## Storage and shipping condition

Temperature  Room temp.  +8 °C to +20 °C  -20 °C

Shelf life, in months  24 m



# CHAPTER SUMMARY

About Salt Solutions & Salts / Buffers.....	39
Dulbecco’s Phosphate Buffered Saline - DPBS.....	40
Earle’s Balanced Salt Solutions - EBSS.....	41
Hank’s Balanced Salt Solutions - HBSS.....	42
Hepes.....	43
Other Salt Solutions & Salts.....	43

## About Salt Solutions & Salts / Buffers

The irrigating buffers and salt solutions are sterile physiologically balanced solutions intended for use in the maintenance of mammalian cells where a chemically defined, balanced salt solution provides an environment that will maintain the structural and physiological integrity of cells in vitro. The buffers and solutions are used in the first steps of preparing parts of organs and during the dissociation process or for isolation of cell suspensions. Further applications are the intermediate steps for the cultivation of cells like washing, centrifugation, suspending and counting, as well as many analytical methods or

biochemical treatments. For the most part, these solutions should be used to maintain the cells only for minutes or, at the most, a few hours in suspension. These buffers and solutions are not cell culture media. They are made up of a phosphate buffer system, sodium chloride to adjust the osmolality, and in some cases sugar for short-time nutrition and stabilisation of morphology. For applications where  $\text{Ca}^{2+}$  and  $\text{Mg}^{2+}$  ions interfere with enzyme activity e.g. Trypsin, use the modified buffers w/o Calcium w/o Magnesium.

Serum

Cell Culture Media

Salt Solutions

Antibiotics

Cell Culture Reagents  
& other products





## DULBECCO'S PHOSPHATE BUFFERED SALINE - DPBS

DPBS is commonly used in cell enumeration as a diluent, for rinsing cells and as a buffer in many chromatographic procedures. DPBS is also used in the FACS (Fluorescence-activated cell sorting) process to wash and resuspend cells during the dissociation process.

Dulbecco's Phosphate Buffered Saline w/o Calcium w/o Magnesium

Cat N°	Unit/Size		 Room temp.	 48 m
L0615 - 100	100 ml			
L0615 - 500	500 ml			
L0615 - 1000	1000 ml			

Dulbecco's Phosphate Buffered Saline w/o Calcium w/o Magnesium (sterile)

L0615 - C10LS	10L		 Room temp.	 48 m
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Dulbecco's Phosphate Buffered Saline 10X w/o Calcium w/o Magnesium

X0515 - 100	500 ml		 Room temp.	 48 m
X0515 - 500	1000 ml			

Dulbecco's Phosphate Buffered Saline 10X w/ Calcium w/ Magnesium

X0520 - 500	500 ml		 Room temp.	 48 m
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Dulbecco's Phosphate Buffered Saline w/o Calcium w/o Magnesium

P0750 - N1L	For 1L		 Room temp.	 48 m
P0750 - N10L	For 10L			

Composition available **p. 79**

- Other packagings available on request.
- For your special formulation, please contact us so we can make your custom made Media on request.

## EARLE'S BALANCED SALTS SOLUTIONS - EBSS

Earle's Balanced Salts Solutions (EBSS) are designed for short-term use in a CO<sub>2</sub> environment.

EBSS w/o Calcium w/o Magnesium

Cat N°	Unit/Size			
L0601 - 500	500 ml		Room temp.	48 m

EBSS w/ Calcium w/ Magnesium

L0602 - 500	500 ml		Room temp.	48 m
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EBSS10X w/ Calcium w/ Magnesium w/o Sodium Bicarbonate

X0112 - 500	500 ml		Room temp.	48 m
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EBSS 10X w/o Calcium w/o Magnesium w/o Sodium Bicarbonate

X0113 - 500	500 ml		Room temp.	48 m
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Composition  
available **p. 79**

■ Other packagings available on request.

■ For your special formulation, please contact us  
so we can make your custom made Media on request.





## HANKS' BALANCED SALTS SOLUTIONS - HBSS

Hanks' Balanced Salts Solutions (HBSS) are designed for short term use under ambient atmospheric conditions - not for CO2 incubation.

HBSS w/o Calcium w/o Magnesium w/o Sodium Bicarbonate w/o Phenol Red

Cat N°	Unit/Size			
L0605 - 500	500 ml		 Room temp.	 48 m

HBSS w/ Calcium w/ Magnesium w/ Sodium Bicarbonate w/ Phenol Red

L0606 - 500	500 ml		 Room temp.	 48 m
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HBSS w/o Calcium w/o Magnesium w/ Sodium Bicarbonate w/o Phenol Red

L0607 - 500	500 ml		 Room temp.	 48 m
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HBSS w/o Calcium w/o Magnesium w/ Sodium Bicarbonate w/ Phenol Red

L0611 - 500	500 ml		 Room temp.	 48 m
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HBSS w/ Calcium w/ Magnesium w/ Sodium Bicarbonate w/o Phenol Red

L0612 - 500	500 ml		 Room temp.	 48 m
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HBSS 10X w/o Calcium w/o Magnesium w/o Sodium Bicarbonate w/o Phenol Red

X0507 - 500	500 ml		 Room temp.	 48 m
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HBSS 10X w/ Calcium w/ Magnesium w/o Sodium Bicarbonate w/ Phenol Red

X0509 - 500	500 ml		 Room temp.	 48 m
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HBSS 10X w/o Calcium w/o Magnesium w/ Sodium Bicarbonate w/o Phenol Red

X0510 - 500	500 ml		 Room temp.	 48 m
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HBSS 10X w/o Calcium w/o Magnesium w/o Sodium Bicarbonate w/ Phenol Red

X0513 - 500	500 ml		 Room temp.	 48 m
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HBSS w/o Calcium w/o Magnesium w/o Sodium Bicarbonate w/o Phenol Red

P0153 - N1L P0153 - N10L	For 1L For 10L		 Room temp.	 48 m
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HBSS w/ Calcium w/ Magnesium w/o Sodium Bicarbonate w/ Phenol Red

P0154 - N1L P0154 - N10L	For 1L For 10L		 Room temp.	 48 m
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Composition  
available **p. 79**

Other packagings available on request.

For your special formulation, please contact us so we can make your custom made Media on request.

## HEPES

HEPES is used in many media because it has more buffering capacity than sodium bicarbonate at physiological pH (7.2 - 7.4) at 37°C. Sodium bicarbonate is nutritionally necessary for most cells, so HEPES should be added in addition to, not in place of, sodium bicarbonate. It is commonly added at 10 - 25 mM concentrations (higher levels may cause cytotoxicity).

### HEPES Buffer 1 M

Cat N°	Unit/Size			
L0180 - 100	100 ml			
L0180 - 500	500 ml			

Other packagings available on request.

### HEPES, cell culture tested

Cat N°	Unit/Size			
P5455 - 100GR	100 g			
P5455 - 500GR	500 g			
P5455 - 1 KG	1 kg			

## OTHER SALT SOLUTIONS & SALTS

### Sodium Bicarbonate 7.5 %

L0680 - 100	100 ml			
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### Sodium Bicarbonate, cell culture tested

P2060 - 500GR	500 g			
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### Sodium Chloride Salt Solution 0.85 %

L0640 - 500	500 ml			
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### Sodium Chloride for dilution 9 g/l

P2064 - NSL	For 5L			
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### Sodium Chloride

P2066 - 1 KG	1 kg			
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### Phenol Red Sodium Salt

P5648 - 10GR	10 g			
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Other salts available on request.

Other packagings available on request.

For your special formulation, please contact us so we can make your custom made Media on request.

### Sodium Pyruvate 100 mM

L0642 - 100	100 ml			
L0642 - 500	500 ml			

### Potassium Chloride 0.075 M

L0643 - 100	100 ml			
L0643 - 500	500 ml			

### Potassium Chloride

P2035 - 500GR	500 g			
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### Versene

L0630 - 100	100 ml			
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Composition  
available p. 80

# ANTIBIOTICS

## Legend

### State

Liquid 

Powder 

Frozen 

### Storage and shipping condition

Temperature  Room temp.  +8°C  -20°C

Shelf life, in months  24 m

## Antibiotics

The use of antibiotics is a helpful tool in the cell culture field or where fluids have to be conserved and free from bacterial contamination. Most antibiotics suppress the growth of micro-organisms by blocking an anabolic pathway.

NANOMYCOPULITINE actively kills bacteria, including mycoplasma, in all three stages of development without interfering with the eukaryotic metabolism.

### ANTIBIOTICS

#### Amphotericin B

Cat N°	Unit/Size			
L0009 - 050	50 ml		-20°C	24 m
L0009 - 100	100 ml			
P4030 - 250MG	250 mg		+8°C +2°C	24 m

#### Antibiotic-Antimycotic 100X

L0010 - 020	20 ml		-20°C	24 m
L0010 - 100	100 ml			

#### G-418 (Geneticin) Solution

L0015 - 020	20 ml		-20°C	24 m
L0015 - 100	100 ml			

#### G-418 Sulfate

P0017 - 10GR	10 g		+8°C +2°C	36 m
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#### Gentamicin Sulfate

P4020 - 1GR	1 g		+8°C +2°C	48 m
P4020 - 5GR	5 g			

#### Gentamicin Sulfate 10 mg/ml

L0011 - 010	10 ml		-20°C	24 m
L0011 - 100	100 ml			

#### Gentamicin Sulfate 50 mg/ml

L0012 - 010	10 ml		-20°C	24 m
L0012 - 100	100 ml			

#### Glutamine-Penicillin-Streptomycin 100X

L0014 - 100	100 ml		-20°C	24 m
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Nanomycopultine Concentrat 20 x

Cat N°	Unit/Size			
L - X16 - 010	10 ml		 -20°C	 24 m
L - X16 - 100	100 ml			

Penicillin G Sodium Salt - 1 Million Units

P0018 - 1MU	1 Million units		 +8°C -2°C	 36 m
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Penicillin-Streptomycin

L0018 - 020	20 ml		 -20°C	 24 m
L0018 - 100	100 ml			

Penicillin-Streptomycin Solution 100X

L0022 - 020	20 ml		 -20°C	 18 m
L0022 - 100	100 ml			

■ Other Antibiotics and packagings available on request.

■ For your special formulation, please contact us  
so we can make your custom made Media on request.

> Composition available on our website [www.biowest.net](http://www.biowest.net)



# CELL CULTURE REAGENTS & OTHER PRODUCTS

## Legend

### State

Liquid 

Powder 

Frozen 

## Storage and shipping condition

Temperature  Room temp.  +8°C  
+2°C  -20°C

Shelf life, in months  24 m



## TRYPSIN

Recombinant Trypsin is a genetically engineered protein expressed in E-Coli. As such it is totally animal free, free from contaminating enzymes like chymotrysin as well as protease inhibitors. It is highly stable with a high purity (95%). It is widely used in insulin manufacturing, vaccines and cell culture applications.

Trypsin 0.25 % in PBS w/o Calcium w/o Magnesium w/ Phenol Red

Cat N°	Unit/Size			
L0909 - 100	100 ml		 -20°C	 24 m

Trypsin 0.25 % in PBS w/o Calcium w/o Magnesium w/o Phenol Red

L0910 - 100	100 ml		 -20°C	 24 m
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Trypsin 0.25% - EDTA in HBSS w/o Calcium w/o Magnesium w/ Phenol Red

L0931 - 100	100 ml		 -20°C	 24 m
L0931 - 500	500 ml			

Trypsin 0.25% - EDTA 0.02% in HBSS w/o Calcium w/o Magnesium w/ Phenol Red

L0932 - 100	100 ml		 -20°C	 24 m
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Trypsin 2.5 % in HBSS w/o Calcium w/o Magnesium w/o Phenol Red

X0920 - 100	100 ml		 -20°C	 24 m
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Trypsin-EDTA 1X in solution w/o Calcium w/o Magnesium w/ Phenol Red

L0930 - 100	100 ml		 -20°C	 24 m
L0930 - 500	500 ml			

Trypsin-EDTA 1X in PBS w/o Calcium w/o Magnesium w/o Phenol Red

L0940 - 100	100 ml		 -20°C	 24 m
L0940 - 500	500 ml			

Trypsin-EDTA 10X

X0930 - 100	100 ml		 -20°C	 24 m
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Trypsin - EDTA 1X Lyophilised w/ Sodium Chloride

P0940 - 100GR	100 g		 -20°C	 24 m
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Trypsin 1:250 powder (porcine)

P5957 - 100GR	100 g		 -20°C	 12 m
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Recombinant Trypsin-EDTA 1X in PBS w/o Calcium w/o Magnesium w/o Phenol Red

L0941 - 100	100 ml		 -20°C	 24 m
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- Other Antibiotics and packagings available on request.
- For your special formulation, please contact us so we can make your custom made Media on request.

Composition available **p. 80**

## ACCUTASE

Accutase is a ready to use cell detachment solution developed to meet the most demanding requirements for a gentle and effective detachment of adherent cells. It can be used as a direct replacement for Trypsin, but has several advantages due to the more gentle detachment of the cells.

### Features:

- **Gentle & effective cell detachment.**
- **Protection of surface epitopes for e.g. subsequent flow cytometry analysis.**
- **Maximum protection for sensitive cell culture: primary, neuronal or stem cells.**
- **No neutralization required.**
- **No aliquotation needed, stable in the refrigerator for two months after thawing.**

Accutase combines proteolytic and collagenolytic enzyme activity. As it is non-mammalian and non-bacterial origin, it is an excellent choice for serum free cell cultures. Accutase can be used for the whole range of adherent cells. For a list of tested cell lines please visit: [www.biowest.net](http://www.biowest.net)

It can also be used on suspension cells to reduce clumping in preparation for counting.

### Accutase

Cat N°	Unit/Size			
L0950 - 100	100 ml		-20°C	24 m

- **Other packagings available on request.**

## AMINO ACIDS AND VITAMINS

Amino acids, vitamins or non essential amino acids can be added to your basal medium. The final concentration of the MEM or BME should be 1X to enrich it and then this medium is used as a classical MEM or BME.

### MEM Vitamins 100X w/o L-Glutamine

Cat N°	Unit/Size			
X0556 - 100	100 ml		-20°C	24 m

### MEM non Essential Amino Acids 100X w/o L-Glutamine

Cat N°	Unit/Size			
X0557 - 100	100 ml		+8°C +2°C	24 m

> Composition available on our website [www.biowest.net](http://www.biowest.net)

- **Other packagings available on request.**
- **For your special formulation, please contact us so we can make your custom made Media on request.**
- **For specific vitamins and amino acids, please inquire availability, packagings and prices.**



D-GLUCOSE MONOHYDRATE  
DEXTROSE, CELL CULTURE TESTED

D-Glucose Monohydrate is a common natural sugar involved in processes, such as energy production, glycosylation, and formation of glycans that provide structure to cells. It is involved in a detrimental process in cells called glycation. It is used as a supplement for cell culture and in numerous cellular processes.

D-Glucose Monohydrate (Dextrose), cell culture tested

Cat N°	Unit/Size		 Room temp.	 48 m
P5030 - 500GR P5030 - 1KG	500 g 1 kg			

GLUTAMINE

L-Glutamine is an essential amino acid required by virtually all mammalian and insect cells grown in culture. It is a crucial component of many cell culture media and serves as a major energy source for cells in culture. L-Glutamine is very stable as a dry powder and as a frozen solution.

However, in liquid media or stock solutions, L-Glutamine can degrade relatively rapidly.

L-Glutamine is also more labile in cell culture solution than other amino acids.

Dipeptide derivatives of L-Glutamine (Stable Glutamine) prevent the intramolecular cyclization reaction associated with solutions of L-Glutamine. These

derivatives are therefore stable in solution and allow the formulation of cell culture media containing -Glutamine that may be stored at 4°C for extended periods. Solutions containing these derivatives can be even autoclaved without appreciable degradation of the product (30 minutes at 121°C results in <5% loss of the product).

The dipeptide derivatives are metabolized within the cells to yield L-Glutamine plus the second amino acid. This results in more consistent delivery of L-Glutamine to your cells and avoids toxic build-up of ammonia in your cell cultures. This feature can be especially important for ammonia-sensitive cell lines.

L-Glutamine 100X, 200mM

X0550 - 100	100 ml		 -20°C	 24 m
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Glutamine stable 100X, 200mM

X0551 - 100	100 ml		 -20°C	 24 m
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L-Glutamine

P1012 - 100GR P1012 - 1KG	100 g 1 kg		 Room temp.	 24 m
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L-Alanyl-L-Glutamine, stable Glutamine

P1031 - 100GR	100 g		 Room temp.	 36 m
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Other packagings available on request.

## COLCEMID

Colcemid halts the division of cells in mitosis. It prevents the formation of the spindle apparatus responsible for cell division, thereby permitting an accumulation of metaphases.

Colcemid 10 µg/ml in PBS (Demecolcin)

Cat N°	Unit/Size			
L0040 - 010	10 ml			
L0040 - 020	20 ml			
L0040 - 050	50 ml			



> Composition available on our website [www.biowest.net](http://www.biowest.net)

■ Other packagings available on request.

■ For your special formulation, please contact us so we can make your custom made Media on request.

## PHYTOHAEMAGGLUTININ M - PHA-M

Phytohaemagglutinin is a lectin, extracted from red kidney beans, used for the stimulation of cell proliferation in lymphocyte culture. PHA-M also has a powerful erythroagglutinating property and it was originally used for separating leukocytes from whole blood.

Phytohaemagglutinin M - PHA-M

Cat N°	Unit/Size			
L3010 - 005	5 ml			



■ Other packagings available on request.

## LYMPHOSEP

Lymphosep is designed for the simple, rapid isolation of lymphocytes from whole blood that has been diluted and treated with anti-coagulant or defibrinating agent.

Lymphosep, Lymphocyte Separation Media

Cat N°	Unit/Size			
L0560 - 100	100 ml			
L0560 - 500	500 ml			



> Composition available on our website [www.biowest.net](http://www.biowest.net)

■ Other packagings available on request.

■ For your special formulation, please contact us so we can make your custom made Media on request.



## CELL CULTURE WATER

Cell Culture Water is suitable to dissolve dry powder cell culture media in accordance to the technical data sheet. Sterility tests include aerobic and anaerobic bacteriological flora, fungi and yeast. The endotoxin level is less than 0.005 EU/mL

Cell Culture Water Pyrogen free

Cat N°	Unit/Size		 Room temp.	 48 m
L0970 - 100	100 ml			
L0970 - 500	500 ml			
L0970 - 1000	1000 ml			

## BIOGUARD

Bioguard is used in the disinfection of surfaces of laboratory apparatus and of CO2 incubator. Bioguard prevents the contamination and growth of fungi, bacteria, and their spores, mycoplasma and viruses, including HIV and Hepatitis B. Bioguard is non-toxic and biodegradable.

We recommend :

- Bioguard-S to keep safe all common work surfaces.
- Bioguard-A to disinfect the water trays required for humidity in common types of incubators, and which are a potential source of contamination.

Bioguard - S

Cat N°	Unit/Size		 Room temp.	 60 m
D1010 - 1000	1000 ml			

Bioguard - A

Cat N°	Unit/Size		 -20°C	 24 m
D1020 - 100	100 ml			



# Table for addition of Sodium Bicarbonate

Cat N°	Description	Add° of Sodium Bicarbonate powder P2060	Add° of Sodium Bicarbonate 7,5% solution L0680
		g / L	ml / L
	<b>Cell Culture Media</b>		
P0030	BME w/ Earle's Salts w/ L-Glutamine w/o Sodium Bicarbonate	2,2	29,3
P0058	CMRL 1066 w/ L-Glutamine w/o Sodium Bicarbonate	2,2	29,3
P0061	DMEM Low Glucose w/ L-Glutamine w/o Sodium Bicarbonate w/ Sodium Pyruvate	3,7	49,3
P0095	DMEM F12 w/ L-Glutamine w/o Sodium Bicarbonate w/ 15 mM Hepes	1,2	16
P0102	DMEM High Glucose w/ L-Glutamine w/o Sodium Bicarbonate w/o Sodium Pyruvate	3,7	49,3
P0103	DMEM High Glucose w/ L-Glutamine w/o Sodium Bicarbonate w/o Sodium Pyruvate	3,7	49,3
P0120	Glasgow MEM BHK 21 w/ L-Glutamine w/o Sodium Bicarbonate w/o Tryptose Phosphate Broth	2,75	36,7
P0134	HAM's F12 w/ L-Glutamine w/o Sodium Bicarbonate	1,176	15,7
P0146	HAM's F10 w/ L-Glutamine w/o Sodium Bicarbonate	1,2	16
P0191	IMDM w/ L- Glutamine w/o Sodium Bicarbonate w/ 25 mM Hepes	3,024	40,3
P0390	McCoy's 5A w/ L-Glutamine w/o Sodium Bicarbonate	2,2	29,3
P0410	Medium 199 w/ Hanks' Salts w/o L-Glutamine w/o Sodium Bicarbonate	0,35	4,7
P0420	Medium 199 w/ Earle's Salts w/ L-Glutamine w/o Sodium Bicarbonate	2,2	29,3
P0425	Medium 199 w/ Earles' Salts w/ L-Glutamine w/o Sodium Bicarbonate w/ 25mM Hepes	2,2	29,3
P0440	MEM Alpha Modification w/ Earle's Salts w/ L-Glutamine w/o Sodium Bicarbonate	2,2	29,3
P0450	MEM w/ Earle's Salts w/ L-Glutamine w/ NEAA w/o Sodium Bicarbonate	2,2	29,3
P0451	MEM w/ Earle's Salts w/ L-Glutamine w/o NEAA w/o Sodium Bicarbonate	2,2	29,3
P0515	MEM w/ Hanks' Salts w/ L-Glutamine w/ NEAA w/o Sodium Bicarbonate	0,35	4,7
P0860	RPMI 1640 w/ L-Glutamine w/o Sodium Bicarbonate	2	26,7
P0870	RPMI 1640 w/o L-Glutamine w/o Sodium Bicarbonate	2	26,7
P0871	RPMI 1640 w/o L-Glutamine w/o Sodium Bicarbonate w/o Phenol Red	2	26,7
P0876	RPMI 1640 w/ L-Glutamine w/o Sodium Bicarbonate w/25 mM Hepes w/o Phenol Red	2	26,7
P0880	RPMI 1640 w/ L-Glutamine w/o Sodium Bicarbonate w/o Phenol Red	2	26,7
P0883	RPMI 1640 w/ L-Glutamine w/o Sodium Bicarbonate w/o Glucose	2	26,7

		Add° of Sodium Bicarbonate powder P2060	Add° of Sodium Bicarbonate 7,5% solution L0680
Salt Solutions		g / L	ml / L
L0605	Hanks' Balanced Salt Solution w/o Calcium w/o Magnesium w/o Sodium Bicarbonate w/o Phenol Red	0,35	4,7
L0608	Hanks' Balanced Salt Solution w/ Calcium w/ Magnesium w/o Sodium Bicarbonate w/ Phenol Red	0,35	4,7
P0153	Hanks' Balanced Salts w/o Calcium w/o Magnesium w/o Sodium Bicarbonate w/o Phenol Red	0,35	4,7
P0154	Hanks' Balanced Salts w/ Calcium w/ Magnesium w/o Sodium Bicarbonate	0,35	4,7
X0112	Earle's Balanced Salt Solution 10X w/ Calcium w/ Magnesium w/o Sodium Bicarbonate	2,2 For 1X	29,3 For 1X
X0113	Earle's Balanced Salt Solution 10X w/o Calcium w/o Magnesium w/o Sodium Bicarbonate	2,2 For 1X	29,3 For 1X
X0507	Hanks' Balanced Salt Solution 10X w/o Calcium w/o Magnesium w/o Sodium Bicarbonate w/o Phenol Red	0,35 For 1X	4,7 For 1X
X0509	Hanks' Balanced Salt Solution 10X w/ Calcium w/ Magnesium w/o Sodium Bicarbonate w/ Phenol Red	0,35 For 1X	4,7 For 1X
X0513	Hanks' Balanced Salt Solution 10X w/o Calcium w/o Magnesium w/o Sodium Bicarbonate w/ Phenol Red	0,35 For 1X	4,7 For 1X

# Table for addition of L-Glutamine

		Addition of L-Glutamine powder P1012	Addition of L-Glutamine 100X, 200mM solution X0550
		g / L	ml / L
L0042	BME w/ Earle's Salts w/o L-Glutamine	0,292	10
L0064	DMEM Low Glucose w/o L-Glutamine w/ Sodium Pyruvate	0,584	20
L0090	DMEM F12 w/o L-Glutamine w/o Hepes	0,365	12,5
L0091	DMEM F12 w/o L-Glutamine w/o Hepes w/o Glucose	0,365	12,5
L0094	DMEM F12 w/o L-Glutamine w/ 15 mM Hepes	0,365	12,5
L0096	DMEM F12 w/o L-Glutamine w/ 25 mM Hepes	0,365	12,5
L0100	DMEM High Glucose w/o L-Glutamine w/ 25mM Hepes	0,584	20
L0101	DMEM High Glucose w/o L-Glutamine w/o Sodium Pyruvate	0,584	20
L0106	DMEM High Glucose w/o L-Glutamine w/ Sodium Pyruvate	0,584	20
L0136	HAM's F12 w/o L-Glutamine	0,146	5
L0145	HAM's F10 w/o L-Glutamine	0,146	5
L0192	IMDM w/o L- Glutamine w/o Hepes	0,584	20
L0222	Glasgow MEM BHK 21 w/o L-Glutamine w/o Tryptose Phosphate Broth	0,292	10
L0300	Leibovitz L-15 Medium w/o L-Glutamine	0,3	10,25
L0356	Medium 199 w/ Earle's Salts w/o L-Glutamine	0,1	3,4
L0430	MEM w/ Earle's Salts w/o L-Glutamine w/NEAA	0,292	10
L0440	MEM w/ Earle's Salts w/o L-Glutamine	0,292	10
L0445	MEM w/ Earle's Salts w/o L-Glutamine w/ 25mM Hepes	0,292	10
L0465	MEM w/ Hanks' Salts w/o L-Glutamine	0,292	10
L0470	MEM w/ Hanks' Salts w/o L-Glutamine w/ 25mM Hepes	0,292	10
L0476	MEM Alpha w/o L-Glutamine w/o Ribonucleosides w/o Deoxyribonucleosides	0,292	10
L0490	RPMI 1640 w/o L-Glutamine w/ 25 mM Hepes	0,3	10,25
L0492	RPMI 1640 Dutch Modification w/o L-Glutamine w/ 1g/l Sodium Bicarbonate w/ 20mM Hepes	0,3	10,25
L0501	RPMI 1640 w/o L-Glutamine	0,3	10,25
L0503	RPMI 1640 w/o L-Glutamine w/o Folic Acid	0,3	10,25
L0505	RPMI 1640 w/o L-Glutamine w/o Phenol Red	0,3	10,25
P0410	Medium 199 w/ Hanks' Salts w/o L-Glutamine w/o Sodium Bicarbonate	0,1	3,4
P0870	RPMI 1640 w/o L-Glutamine w/o Sodium Bicarbonate	0,3	10,25
P0871	RPMI 1640 w/o L-Glutamine w/o Sodium Bicarbonate w/o Phenol Red	0,3	10,25
P0875	RPMI 1640 w/o L-Glutamine w/o Sodium Bicarbonate w/ 25mM Hepes	0,3	10,25

BASAL MEDIUM EAGLE - BME		L0042 Liquid mg/l	P0030 Powder mg/l
Amino Acids	L-Arginine Monohydrochloride	21	21
	L-Cystine Dihydrochloride	15,65	15,65
	L-Glutamine	/	292
	L-Histidine	8	8
	L-Isoleucine	26	26
	L-Leucine	26	26
	L-Lysine Monohydrochloride	36,47	36,47
	L-Methionine	7,5	7,5
	L-Phenylalanine	16,5	16,5
	L-Threonine	24	24
	L-Tryptophan	4	4
	L-Tyrosine Disodium Salt Dihydrate	25,95	25,95
	L-Valine	23,5	23,5
Inorganic Salts	Calcium Chloride Dihydrate	265	264
	Magnesium Sulfate Anhydrous	97,67	97,67
	Potassium Chloride	400	400
	Potassium Phosphate Monobasic Anhydrous	/	/
	Sodium Bicarbonate	2200	/
	Sodium Chloride	6800	6800
	Sodium Phosphate Dibasic Anhydrous	/	/
	Sodium Phosphate Monobasic Anhydrous	122	122
Vitamins	Choline Chloride	1	1
	D-Biotin	1	1
	D-Ca Pantothenate	1	1
	Folic Acid	1	1
	Myo-Inositol	2	2
	Nicotinamide (Nicotinic acid amide)	1	1
	Pyridoxal Hydrochloride	1	1
	Riboflavine	0,1	0,1
O.C.*	Thiamine Hydrochloride	1	1
	D-Glucose Anhydrous	1000	1000
	Hepes Free Acid	/	/
	Phenol Red Sodium Salt	11	11

\* Other Components

# Composition

## CMRL 1066

**P0058**  
Powder  
mg/l

**P0058**  
Powder  
mg/l

### Amino Acids

Glycine	50
L-Alanine	25
L-Arginine Free Base	57,87
L-Aspartic Acid	30
L-Cysteine Monohydrochloride Monohydrate	260
L-Cystine Dihydrochloride	20
L-Glutamic Acid	75
L-Glutamine	100
L-Histidine Monohydrochloride Monohydrate	20
L-Hydroxy-L-Proline	10
L-Isoleucine	20
L-Leucine	60
L-Lysine Monohydrochloride	70
L-Methionine	15
L-Phenylalanine	25
L-Proline	40
L-Serine	25
L-Threonine	30
L-Tryptophane	10
L-Tyrosine	40
L-Valine	25

### Inorganic salts

Calcium Chloride Anhydrous	200
Magnesium Sulfate Anhydrous	97,69
Potassium Chloride	400
Sodium Acetate Anhydrous	50
Sodium Chloride	6800
Sodium Phosphate Monobasic Anhydrous	122

### Vitamins

2`Deoxyadenosine Monohydrate	10,715
2`Deoxycytidine Monohydrochloride	11,6
2`Deoxyguanosine Monohydrate	10
5-Methyl-2`-Deoxycytidine Hydrochloride	0,1
Ascorbic Acid	50
B-NAD	7
B-NADP + Na	1
Choline Chloride	0,5
Coccarboxylase	1
D-Biotin	0,01
D-Ca Pantothenate	0,01
Flavin Adenine Dinucleotide Disodium Salt	0,106
Folic Acid	0,01
Myo-Inositol	0,05
Nicotinamide	0,025
Nicotinic Acid	0,025
P-Aminobenzoic Acid (PABA)	0,05
Pyridoxal Hydrochloride	0,025
Pyridoxine Hydrochloride	0,025
Riboflavin	0,01
Thiamine Hydrochloride	0,01

### O.C.\*

Cholesterol	0,2
Coenzyme A,Na	2,5
D-Glucose Anhydrous	1000
D-Glucuronic Acid + Na	3,88
L-Glutathione Reduced	10
Phenol Red Sodium Salt	21,24
Thymidine	10
Tween 80	5
Uridine-5-Triphosphate + Na	1

\* Other Components

# Composition



## DMEM High Glucose

	L0100 Liquid mg/l	L0101 Liquid mg/l	L0102 Liquid mg/l	L0103 Liquid mg/l	L0104 Liquid mg/l	L0106 Liquid mg/l	L0107 Liquid mg/l	P0102 Powder mg/l	P0103 Powder mg/l
Amino Acids	Glycine	30	30	30	30	30	30	30	30
	L-Alanyl-L-Glutamine	/	/	/	862	/	/	/	/
	L-Arginine Monohydrochloride	84	84	84	84	84	84	84	84
	L-Cystine Dihydrochloride	62,6	62,6	62,6	62,6	62,6	62,6	62,6	62,6
	L-Glutamine	/	/	584	/	584	/	/	/
	L-Histidine Monohydrochloride Monohydrate	42	42	42	42	42	42	42	42
	L-Isoleucine	105	105	105	105	105	105	105	105
	L-Leucine	105	105	105	105	105	105	105	105
	L-Lysine Monohydrochloride	146	146	146	146	146	146	146	146
	L-Methionine	30	30	30	30	30	30	30	30
	L-Phenylalanine	66	66	66	66	66	66	66	66
	L-Serine	42	42	42	42	42	42	42	42
	L-Threonine	95	95	95	95	95	95	95	95
	L-Tryptophan	16	16	16	16	16	16	16	16
	L-Tyrosine Disodium Salt Dihydrate	103,79	103,79	103,79	103,79	103,79	103,79	103,79	103,79
	L-Valine	94	94	94	94	94	94	94	94
Inorganic Acids	Calcium Chloride Dihydrate	265	265	265	265	265	265	265	265
	Ferric Nitrate Nonahydrate	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1
	Magnesium Sulfate Anhydrous	97,67	97,67	97,67	97,67	97,67	97,67	97,67	97,67
	Potassium chloride	400	400	400	400	400	400	400	400
	Sodium Bicarbonate	3700	3700	3700	3700	3700	3700	/	/
	Sodium Chloride	4400	6400	6400	6400	6400	6400	6400	6400
	Sodium Phosphate Monobasic Anhydrous	109	109	109	109	109	109	109	109
Vitamins	Choline Chloride	4	4	4	4	4	4	4	4
	D-Ca Pantothenate	4	4	4	4	4	4	4	4
	Folic Acid	4	4	4	4	4	4	4	4
	Myo-Inositol	7,2	7,2	7,2	7,2	7,2	7,2	7,2	7,2
	Nicotinamide	4	4	4	4	4	4	4	4
	Pyridoxal Hydrochloride	4	4	4	4	4	4	4	4
	Riboflavine	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4
	Thiamine Hydrochloride	4	4	4	4	4	4	4	4
O.C.*	D-Glucose Anhydrous	4500	4500	4500	4500	4500	4500	4500	4500
	Hepes Free Acid	5958	/	/	/	/	5958	/	/
	Phenol Red Solution Salt	15,9	15,9	15,9	15,9	15,9	15,9	15,9	15,9
	Sodium Pyruvate	/	/	/	110	110	110	110	/

\* Other Components

# Composition

## DMEM Low Glucose

	L0060 Liquid mg/l	L0064 Liquid mg/l	L0065 Liquid mg/l	L0066 Liquid mg/l	P0061 Powder mg/l
Amino Acids	Glycine	30	30	30	30
	L-Alanyl-L-Glutamine (Glutamine Stable)	/	/	862	/
	L-Arginine Monohydrochloride	84	84	84	84
	L-Cystine Dihydrochloride	62,6	62,6	62,6	62,6
	L-Glutamine	584	/	584	584
	L-Histidine Monohydrochloride Monohydrate	42	42	42	42
	L-Isoleucine	105	105	105	105
	L-Leucine	105	105	105	105
	L-Lysine Monohydrochloride	146	146	146	146
	L-Methionine	30	30	30	30
	L-Phenylalanine	66	66	66	66
	L-Serine	42	42	42	42
	L-Threonine	95	95	95	95
	L-Tryptophan	16	16	16	16
	L-Tyrosine Disodium Salt Dihydrate	103,79	103,79	103,79	103,79
	L-Valine	94	94	94	94
Inorganic Salts	Calcium Chloride Anhydrous	/	/	/	200
	Calcium Chloride Dihydrate	265	265	265	/
	Ferric Nitrate Nonahydrate	0,1	0,1	0,1	0,1
	Magnesium Sulfate Anhydrous	97,67	97,67	97,67	97,67
	Potassium chloride	400	400	400	400
	Sodium Bicarbonate	3700	3700	3700	/
	Sodium Chloride	6400	6400	4400	6400
	Sodium Phosphate Monobasic Anhydrous	109	109	109	109
Vitamins	Choline Chloride	4	4	4	4
	D-Ca Pantothenate	4	4	4	4
	Folic Acid	4	4	4	4
	Myo-Inositol	7,2	7,2	7,2	7,2
	Nicotinamide	4	4	4	4
	Pyridoxal Hydrochloride	4	4	4	4
	Riboflavine	0,4	0,4	0,4	0,4
	Thiamine Hydrochloride	4	4	4	4
O.C.*	D-Glucose Anhydrous	1000	1000	1000	1000
	Hepes Free Acid	/	/	5958	/
	Phenol Red Solution Salt	15,9	15,9	15,9	15,9
	Sodium Pyruvate	110	110	110	110

# Composition



## DMEM Ham's F12

	L0090 Liquid mg/l	L0091 Liquid mg/l	L0092 Liquid mg/l	L0093 Liquid mg/l	L0094 Liquid mg/l	L0095 Liquid mg/l	L0096 Liquid mg/l	P0095 Powder mg/l
Amino Acids	Glycine	18,75	18,75	18,75	18,75	18,75	18,75	18,75
	L-Alanine	4,45	4,45	4,45	4,45	4,45	4,45	4,45
	L-Alanyl-L-Glutamine	/	/	365	/	/	/	/
	L-Arginine Monohydrochloride	147,5	147,5	147,5	147,5	147,5	147,5	147,5
	L-Asparagine Monohydrate	7,5	7,5	7,5	7,5	7,5	7,5	7,5
	L-Aspartic Acid	6,65	6,65	6,65	6,65	6,65	6,65	6,65
	L-Cysteine Monohydrochloride Monohydrate	17,56	17,56	17,56	17,56	17,56	17,56	17,56
	L-Cystine Dihydrochloride	31,29	31,29	31,29	31,29	31,29	31,29	31,29
	L-Glutamic Acid	7,35	7,35	7,35	7,35	7,35	7,35	7,35
	L-Glutamine	/	/	/	365	/	365	/
	L-Histidine Monohydrochloride Monohydrate	31,48	31,48	31,48	31,48	31,48	31,48	31,48
	L-Isoleucine	54,47	54,47	54,47	54,47	54,47	54,47	54,47
	L-Leucine	59,05	59,05	59,05	59,05	59,05	59,05	59,05
	L-Lysine Monohydrochloride	91,25	91,25	91,25	91,25	91,25	91,25	91,25
	L-Methionine	17,24	17,24	17,24	17,24	17,24	17,24	17,24
	L-Phenylalanine	35,48	35,48	35,48	35,48	35,48	35,48	35,48
	L-Proline	17,25	17,25	17,25	17,25	17,25	17,25	17,25
	L-Serine	26,25	26,25	26,25	26,25	26,25	26,25	26,25
	L-Threonine	53,45	53,45	53,45	53,45	53,45	53,45	53,45
	L-Tryptophan	9,02	9,02	9,02	9,02	9,02	9,02	9,02
	L-Tyrosine Disodium Salt Dihydrate	55,79	55,79	55,79	55,79	55,79	55,79	55,79
	L-Valine	52,85	52,85	52,85	52,85	52,85	52,85	52,85
Inorganic Salts	Calcium Chloride Dihydrate	154,5	154,5	154,5	154,5	154,5	154,5	154,5
	Cupric Sulfate Pentahydrate	0,0013	0,0013	0,0013	0,0013	0,0013	0,0013	0,0013
	Ferric Nitrate Nonahydrate	0,05	0,05	0,05	0,05	0,05	0,05	0,05
	Ferrous Sulfate Heptahydrate	0,417	0,417	0,417	0,417	0,417	0,417	0,417
	Magnesium Chloride Anhydrous	/	/	/	/	/	/	28,64
	Magnesium Chloride Hexahydrate	61,2	61,2	61,2	61,2	61,2	61,2	/
	Magnesium Sulfate Anhydrous	48,84	48,84	48,84	48,84	48,84	48,84	48,84
	Potassium chloride	311,8	311,8	311,8	311,8	311,8	311,8	311,8
	Sodium Bicarbonate	2438	2438	1200	1200	1200	1200	/
	Sodium Chloride	6996	6996	6996	6996	6996	6996	6996
	Sodium Phosphate Dibasic Anhydrous	71,02	71,02	71,02	71,02	71,02	71,02	71,02
	Sodium Phosphate Monobasic Anhydrous	54,3	54,3	54,3	54,3	54,3	54,3	54,3
	Zinc Sulfate Heptahydrate	0,432	0,432	0,432	0,432	0,432	0,432	0,432

# Composition

## DMEM Ham's F12 (following)

Vitamins		L0090 Liquid mg/l	L0091 Liquid mg/l	L0092 Liquid mg/l	L0093 Liquid mg/l	L0094 Liquid mg/l	L0095 Liquid mg/l	L0096 Liquid mg/l	P0095 Powder mg/l
	Choline Chloride	8,98	8,98	8,98	8,98	8,98	8,98	8,98	8,98
	D-Biotin	0,0035	0,0035	0,0035	0,0035	0,0035	0,0035	0,0035	0,0035
	D-Ca Pantothenate	2,24	2,24	2,24	2,24	2,24	2,24	2,24	2,24
	Folic Acid	2,66	2,66	2,66	2,66	2,66	2,66	2,66	2,66
	Myo-Inositol	12,6	12,6	12,6	12,6	12,6	12,6	12,6	12,6
	Nicotinamide	2,02	2,02	2,02	2,02	2,02	2,02	2,02	2,02
	Pyridoxal Hydrochloride	2	2	/	2	2	2	2	2
	Pyridoxine Hydrochloride	0,031	0,031	2,031	0,031	0,031	0,031	0,031	0,031
	Riboflavin	0,219	0,219	0,219	0,219	0,219	0,219	0,219	0,219
O.C.*	Thiamine Hydrochloride	2,17	2,17	2,17	2,17	2,17	2,17	2,17	2,17
	Vitamin B12	0,68	0,68	0,68	0,68	0,68	0,68	0,68	0,68
	D-Glucose Anhydrous	3151	/	3151	3151	3151	3151	3151	3151
	Hepes Free Acid	/	/	3574,5	3574,5	3574,5	5957	5957	3574,5
	Hypoxanthine	2,1	2,1	2,1	2,1	2,1	2,1	2,1	2,1
	Linoleic acid	0,042	0,042	0,042	0,042	0,042	0,042	0,042	0,042
	Phenol Red Sodium Salt	8,63	8,63	8,63	8,63	8,63	8,63	8,63	8,63
	Putrescine+2HCL	0,081	0,081	0,081	0,081	0,081	0,081	0,081	0,081
	Sodium Pyruvate	55	55	55	55	55	55	55	55
	Thioctic Acid	0,105	0,105	0,105	0,105	0,105	0,105	0,105	0,105
	Thymidine	0,365	0,365	0,365	0,365	0,365	0,365	0,365	0,365

\* Other Components



Glasgow MEM BHK 21 (GMEM)		L0221 Liquid mg/l	P0120 Powder mg/l
Amino Acids	L-Arginine Monohydrochloride	42	42
	L-Cystine Dihydrochloride	31,29	31,29
	L-Glutamine	292	292
	L-Histidine Monohydrochloride Monohydrate	21	21
	L-Isoleucine	52,4	52,4
	L-Leucine	52,4	52,4
	L-Lysine Monohydrochloride	73,1	73,1
	L-Methionine	15	15
	L-Phenylalanine	33	33
	L-Threonine	47,6	47,6
	L-Tryptophan	8	8
	L-Tyrosine Disodium Salt Dihydrate	52,19	52,19
	L-Valine	46,8	46,8
Inorganic Salts	Calcium Chloride Anhydrous	/	200
	Calcium Chloride Dihydrate	265	/
	Ferric Nitrate Nonahydrate	0,1	0,1
	Magnesium Sulfate Anhydrous	97,67	97,67
	Potassium Chloride	400	400
	Sodium Bicarbonate	2750	/
	Sodium Chloride	6400	6400
	Sodium Phosphate Monobasic Anhydrous	107,8	/
	Sodium Phosphate Monobasic Dihydrate	/	124
Vitamins	Choline Chloride	2	2
	D-Ca Pantothenate	2	2
	Folic Acid	2	2
	Myo-Inositol	3,6	3,6
	Nicotinamide	2	2
	Pyridoxal Hydrochloride	2	2
	Riboflavin	0,2	0,2
O.C.*	Thiamine Hydrochloride	2	2
	D-Glucose Anhydrous	4500	4500
	Phenol Red Sodium Salt	16	16

\* Other Components

# Composition

## Ham's F10 (F10 Nutrient Medium)

	L0130 Liquid mg/l	L0140 Liquid mg/l	L0145 Liquid mg/l	P0146 Powder mg/l
Amino Acids	Glycine	7,51	7,51	7,51
	L-Alanine	9	9	9
	L-Arginine Monohydrochloride	211	211	211
	L-Asparagine Monohydrate	15,01	15,01	15,01
	L-Aspartic Acid	13,3	13,3	13,3
	L-Cysteine Monohydrochloride Monohydrate	35	35	35
	L-Glutamic Acid	14,7	14,7	14,7
	L-Glutamine	/	146	146
	L-Histidine Monohydrochloride Monohydrate	21	21	21
	L-Isoleucine	2,6	2,6	2,6
	L-Leucine	13,1	13,1	13,1
	L-Lysine Monohydrochloride	29,3	29,3	29,3
	L-Methionine	4,48	4,48	4,48
	L-Phenylalanine	4,96	4,96	4,96
	L-Proline	11,5	11,5	11,5
	L-Serine	10,5	10,5	10,5
	L-Threonine	3,57	3,57	3,57
Inorganic Salts	L-Tryptophan	0,6	0,6	0,6
	L-Tyrosine Disodium Salt Dihydrate	2,61	2,61	2,61
	L-Valine	3,5	3,5	3,5
	Calcium Chloride Dihydrate	44,1	44,1	44,1
	Cupric Sulfate Pentahydrate	0,0025	0,0025	0,0025
	Ferrous Sulfate Heptahydrate	0,834	0,834	0,834
	Magnesium Sulfate Anhydrous	74,64	74,64	74,64
	Potassium Chloride	285	285	285
	Sodium Phosphate Monobasic Anhydrous	83	83	83
	Sodium Bicarbonate	1200	1200	/
Vitamins	Sodium Chloride	6800	7400	7400
	Sodium Phosphate Dibasic Anhydrous	153,7	153,7	153,7
	Zinc Sulfate Heptahydrate	0,0288	0,0288	0,0288
	Choline Chloride	0,698	0,698	0,698
	D-Biotin	0,024	0,024	0,024
	D-Ca Pantothenate	0,715	0,715	0,715
	Folic Acid	1,32	1,32	1,32
	Myo-Inositol	0,541	0,541	0,541
	Nicotinamide	0,615	0,615	0,615
	Pyridoxine Hydrochloride	0,206	0,206	0,206
O.C.*	Riboflavin	0,376	0,376	0,376
	Thiamine Hydrochloride	1	1	1
	Vitamin B12	1,36	1,36	1,36
	D-Glucose Anhydrous	1100	1100	1100
	Hepes Free Acid	5958	/	/
	Hypoxanthine	4,08	4,08	4,08
	Phenol Red Solution Salt	1,3	1,3	1,3
	Sodium Pyruvate	110	110	110
	Thioctic Acid	0,21	0,21	0,21
	Thymidine	0,73	0,73	0,73

\* Other Components

# Composition



## Ham's F12 (F-12 Nutrient Medium)

	L0135 Liquid mg/l	L0136 Liquid mg/l	P0134 Powder mg/l
Amino Acids	Glycine	7,51	7,51
	L-Alanine	9	9
	L-Arginine Monohydrochloride	211	211
	L-Asparagine Monohydrate	15,01	15,01
	L-Aspartic Acid	13,3	13,3
	L-Cysteine Monohydrochloride Monohydrate	35	35
	L-Glutamic Acid	14,7	14,7
	L-Glutamine	146	/
	L-Histidine Monohydrochloride Monohydrate	20,96	20,96
	L-Isoleucine	3,94	3,94
	L-Leucine	13,1	13,1
	L-Lysine Monohydrochloride	36,5	36,5
	L-Methionine	4,48	4,48
	L-Phenylalanine	4,96	4,96
	L-Proline	34,5	34,5
	L-Serine	10,5	10,5
	L-Threonine	11,9	11,9
Inorganic Salts	L-Tryptophan	2,04	2,04
	L-Tyrosine Disodium Salt Dihydrate	7,78	7,78
	L-Valine	11,7	11,7
	Calcium Chloride Dihydrate	44,1	44,1
	Cupric Sulfate Pentahydrate	0,0025	0,0025
	Ferrous Sulfate Heptahydrate	0,834	0,834
	Magnesium Sulfate Anhydrous	/	57,22
	Magnesium Chloride Hexahydrate	123	/
	Potassium Chloride	224	224
	Sodium Bicarbonate	1176	/
Vitamins	Sodium Chloride	7599	7599
	Sodium Phosphate Dibasic Anhydrous	142,04	142,04
	Zinc Sulfate Heptahydrate	0,863	0,863
	Choline Chloride	13,96	13,96
	D-Biotin	0,0073	0,0073
	D-Ca Pantothenate	0,48	0,48
	Folic Acid	1,32	1,32
	Myo-Inositol	18	18
	Nicotinamide	0,037	0,037
	Pyridoxine Hydrochloride	0,062	0,062
O.C.*	Riboflavin	0,038	0,038
	Thiamine Hydrochloride	0,34	0,34
	Vitamin B12	1,36	1,36
	D-Glucose Anhydrous	1802	1802
	Hypoxanthine	4,08	4,08
	Linoleic Acid	0,084	0,084
	Phenol Red Solution Salt	1,3	1,3
	Putrescine+2HCL	0,161	0,161
	Sodium Pyruvate	110	110
	Thioctic Acid	0,21	0,21
	Thymidine	0,73	0,73

\* Other Components

# Composition

## Ham's F14 (F-14 Nutrient Medium)

**L0138**  
Liquid  
mg/l

**L0138**  
Liquid  
mg/l

### Amino Acids

Glycine	15
L-Alanine	17,8
L-Arginine Monohydrochloride	422
L-Asparagine Anhydrous	26
L-Aspartic Acid	26,6
L-Cysteine Monohydrochloride Monohydrate	72
L-Glutamic Acid	29,4
L-Histidine Monohydrochloride Monohydrate	42
L-Isoleucine	8
L-Leucine	26
L-Lysine Monohydrochloride	73
L-Methionine	8,94
L-Phenylalanine	10
L-Proline	69
L-Serine	21
L-Threonine	24
L-Tryptophan	4
L-Tyrosine	10,8
L-Valine	23,4

### Inorganic Salts

Calcium Chloride Dihydrate	294
Cupric Sulfate Pentahydrate	0,0025
Ferrous Sulfate Heptahydrate	0,834
Magnesium Chloride Hexahydrate	172,9
Magnesium Sulfate Heptahydrate	37
Potassium Chloride	372,8
Sodium Bicarbonate	1974
Sodium Chloride	7599
Sodium Phosphate Dibasic Anhydrous	141,8
Zinc Sulfate Heptahydrate	0,144

### Vitamins

Ascorbic Acid	14,97
Choline Chloride	14
D-Biotin	0,0073
D-Ca Pantothenate	0,258
Folic Acid	1,3
Myo-Inositol	18
Nicotinamide	0,036
Pyridoxine Hydrochloride	0,06
Riboflavin	0,037
Thiamine Hydrochloride	0,3
Vitamin B12	1,36

### O.C.\*

Adenosine 5'-Triphosphate x 2Na	1,193
D-Glucose Anhydrous	6000
Hypoxanthine	4,1
Linoleic Acid	0,084
Phenol Red Solution Salt	1,2
Putrescine+2HCL	0,161
Sodium Pyruvate	220
Thioctic Acid	0,21
Thymidine	0,73

\* Other Components

# Composition



## Iscove's Modified Dulbecco's Medium (IMDM)

	L0190 Liquid mg/l	L0191 Liquid mg/l	L0192 Liquid mg/l	P0191 Powder mg/l	P0192 Powder mg/l
Amino Acids	Glycine	30	30	30	30
	L-Alanine	25	25	25	25
	L-Alanyl-L-Glutamine (Glutamine stable)	/	862	/	/
	L-Arginine Monohydrochloride	84	84	84	84
	L-Asparagine Monohydrate	28,4	28,4	28,4	28,4
	L-Aspartic Acid	30	30	30	30
	L-Cystine Dihydrochloride	91,24	91,24	91,24	91,24
	L-Glutamic Acid	75	75	75	75
	L-Glutamine	584	/	584	584
	L-Histidine Monohydrochloride Monohydrate	42	42	42	42
	L-Isoleucine	105	105	105	105
	L-Leucine	105	105	105	105
	L-Lysine Monohydrochloride	146	146	146	146
	L-Methionine	30	30	30	30
	L-Phenylalanine	66	66	66	66
	L-Proline	40	40	40	40
	L-Serine	42	42	42	42
	L-Threonine	95	95	95	95
	L-Tryptophan	16	16	16	16
	L-Tyrosine Disodium Salt Dihydrate	103,79	103,79	103,79	103,79
	L-Valine	94	94	94	94
Inorganic Salts	Calcium Chloride Dihydrate	219	219	219	219
	Magnesium Sulfate Anhydrous	97,67	97,67	97,67	97,67
	Potassium Chloride	330	330	330	330
	Potassium Nitrate	0,076	0,076	0,076	0,076
	Sodium Bicarbonate	3024	3024	3024	3024
	Sodium Chloride	4505	4505	4505	4505
	Sodium Phosphate Monobasic Anhydrous	109	109	109	109
	Sodium Selenite	0,017	0,017	0,017	0,017
Vitamins	Choline Chloride	4	4	4	4
	D-Biotin	0,013	0,013	0,013	0,013
	D-Ca Pantothenate	4	4	4	4
	Folic Acid	4	4	4	4
	Myo-Inositol	7,2	7,2	7,2	7,2
	Nicotinamide	4	4	4	4
	Pyridoxal Hydrochloride	4	4	4	4
	Riboflavin	0,4	0,4	0,4	0,4
	Thiamine Hydrochloride	4	4	4	4
	Vitamin B12	0,013	0,013	0,013	0,013
O.C.*	D-Glucose Anhydrous	4500	4500	4500	4500
	Hepes Free Acid	5958	5958	/	5958
	Phenol Red Sodium Salt	16	16	16	/
	Sodium Pyruvate	110	110	110	110

\* Other Components

# Composition

Leibovitz L15 Medium		L0300 Liquid mg/l	P0350 Powder mg/l
Amino Acids	Glycine	200	200
	L-Alanine	450	450
	L-Arginine Free Base	500	500
	L-Asparagine Anhydrous	250	250
	L-Cysteine Monohydrochloride Monohydrate	157,176	157,176
	L-Glutamine	/	300
	L-Histidine	250	250
	L-Isoleucine	250	250
	L-Leucine	125	125
	L-Lysine Monohydrochloride	75	75
	L-Methionine	150	150
	L-Phenylalanine	250	250
	L-Serine	200	200
	L-Threonine	600	600
	L-Tryptophan	20	20
	L-Tyrosine	300	300
	L-Valine	200	200
Inorganic Salts	Calcium Chloride Dihydrate	185	185
	Magnesium Chloride Anhydrous	/	93,66
	Magnesium Chloride Hexahydrate	200	/
	Magnesium Sulfate Anhydrous	97,67	97,67
	Potassium Chloride	400	400
	Potassium Phosphate Monobasic Anhydrous	60	60
	Sodium Chloride	8000	8000
	Sodium Phosphate Dibasic Anhydrous	190	190
Vitamins	Choline Chloride	1	1
	D-Ca Pantothenate	1	1
	Flavin Adenine Dinucleotide Disodium Salt	0,1	0,1
	Folic Acid	1	1
	Myo-Inositol	2	2
	Nicotinamide	1	1
	Pyridoxine Hydrochloride	1	1
	Thiamine Hydrochloride	1	1
O.C.*	D-Galactose	900	900
	Phenol Red Sodium Salt	11	11
	Sodium Pyruvate	550	550

\* Other Components

# Composition



MC Coy's 5A Medium Modified		L0210 Liquid mg/l	P0390 Powder mg/l
Amino Acids	Glycine	7,5	7,5
	L-Alanine	13,9	13,9
	L-Arginine Monohydrochloride	42,1	42,1
	L-Asparagine Anhydrous	45	45
	L-Aspartic Acid	19,97	19,97
	L-Cysteine Free Base	31,5	31,5
	L-Glutamic Acid	22,1	22,1
	L-Glutamine	219,2	219,2
	L-Histidine Monohydrochloride Monohydrate	20,96	20,96
	L-Hydroxy-L-Proline	19,7	19,7
	L-Isoleucine	39,36	39,36
	L-Leucine	39,36	39,36
	L-Lysine Monohydrochloride	36,5	36,5
	L-Methionine	14,9	14,9
	L-Phenylalanine	16,5	16,5
	L-Proline	17,3	17,3
	L-Serine	26,3	26,3
	L-Threonine	17,9	17,9
	L-Tryptophan	3,1	3,1
	L-Tyrosine Disodium Salt Dihydrate	26,1	26,1
	L-Valine	17,6	17,6
Inorganic Salts	Calcium Chloride Dihydrate	132,46	132,46
	Magnesium Sulfate Anhydrous	97,66	97,66
	Potassium Chloride	400	400
	Sodium Bicarbonate	2200	/
	Sodium Chloride	6460	6460
	Sodium Phosphate Monobasic Anhydrous	504,35	504,35
Vitamins	Ascorbic Acid	0,5	0,5
	Choline Chloride	5	5
	D-Biotin	0,2	0,2
	D-Ca Pantothenate	0,2	0,2
	Folic Acid	10	10
	Myo-Inositol	36	36
	Nicotinamide	0,5	0,5
	Nicotinic Acid	0,5	0,5
	P-Aminobenzoic Acid (PABA)	1	1
	Pyridoxal Hydrochloride	0,5	0,5
	Robiflavin	0,2	0,2
	Thiamine Hydrochloride	0,2	0,2
	Vitamin B12	2	2
O.C.*	D-Glucose Anhydrous	3000	3000
	L-Glutathione (Reduced)	0,5	0,5
	Bactopeptone	600	600
	Phenol Red Sodium Salt	10,2	10,2

\* Other Components

# Composition

## Medium 199

### Amino Acids

	L0330 Liquid mg/l	L0355 Liquid mg/l	L0356 Liquid mg/l	P0410 Powder mg/l	P0420 Powder mg/l	P0425 Powder mg/l	L0361 Liquid mg/l
Glycine	50	50	50	50	50	50	50
L-Alanine	50	50	50	50	50	50	50
L-Alanyl-L-Glutamine (Glutamine stable)	/	/	/	/	/	/	100
L-Arginine Monohydrochloride	70	70	70	70	70	70	70
L-Aspartic Acid	60	60	60	60	60	60	60
L-Cysteine Monohydrochloride Monohydrate	0,11	0,11	0,11	0,11	0,11	0,11	0,11
L-Cystine Dihydrochloride	26	26	26	26	26	26	26
L-Glutamic Acid	133,6	133,6	133,6	133,6	133,6	133,6	133,6
L-Glutamine	100	100	/	/	100	100	/
L-Histidine Monohydrochloride Monohydrate	21,88	21,88	21,88	21,88	21,88	21,88	21,88
L-Hydroxy-L-Proline	10	10	10	10	10	10	10
L-Isoleucine	40	40	40	40	40	40	40
L-Leucine	120	120	120	120	120	120	120
L-Lysine Monohydrochloride	70	70	70	70	70	70	70
L-Methionine	30	30	30	30	30	30	30
L-Phenylalanine	50	50	50	50	50	50	50
L-Proline	40	40	40	40	40	40	40
L-Serine	50	50	50	50	50	50	50
L-Threonine	60	60	60	60	60	60	60
L-Tryptophan	20	20	20	20	20	20	20
L-Tyrosine Disodium Salt Dihydrate	57,66	57,66	57,66	57,66	57,66	57,66	57,66
L-Valine	50	50	50	50	50	50	50

### Inorganic Salts

Calcium Chloride Dihydrate	185	265	265	185	265	265	265
Ferric Nitrate Nonahydrate	0,72	0,72	0,72	0,72	0,72	0,72	0,72
Magnesium Sulfate Anhydrous	97,67	97,67	97,67	97,67	97,67	97,67	97,67
Potassium Chloride	400	400	400	400	400	400	400
Potassium Phosphate Monobasic Anhydrous	60	/	/	60	/	/	/
Sodium Acetate Anhydrous	50	50	50	50	50	50	50
Sodium Bicarbonate	350	1250	2200	/	/	/	2200
Sodium Chloride	8000	6800	6800	8000	6800	6000	6000
Sodium Phosphate Dibasic Anhydrous	47,88	/	/	47,88	/	/	/
Sodium Phosphate Monobasic Anhydrous	/	122	122	/	122	122	122

# Composition



## Medium 199 (following)

### Vitamins

	L0330 Liquid mg/l	L0355 Liquid mg/l	L0356 Liquid mg/l	P0410 Powder mg/l	P0420 Powder mg/l	P0425 Powder mg/l	L0361 Liquid mg/l
Ascorbic Acid	0,0566	0,0566	0,0566	0,0566	0,0566	0,0566	0,0566
Choline Chloride	0,5	0,5	0,5	0,5	0,5	0,5	0,5
DL-alpha-Tocopherol Phosphate Disodium Salt	0,01	0,01	0,01	0,01	0,01	0,01	0,01
D-Biotin	0,01	0,01	0,01	0,01	0,01	0,01	0,01
D-Ca Pantothenate	0,01	0,01	0,01	0,01	0,01	0,01	0,01
Ergocalciferol	0,1	0,1	0,1	0,1	0,1	0,1	0,1
Folic Acid	0,01	0,01	0,01	0,01	0,01	0,01	0,01
Menadione Sodium Bisulfite	0,016	0,016	0,016	0,016	0,016	0,016	0,016
Myo-Inositol	0,05	0,05	0,05	0,05	0,05	0,05	0,05
Nicotinamide	0,025	0,025	0,025	0,025	0,025	0,025	0,025
Nicotinic Acid	0,025	0,025	0,025	0,025	0,025	0,025	0,025
P-Aminobenzoic Acid (PABA)	0,05	0,05	0,05	0,05	0,05	0,05	0,05
Pyridoxal Hydrochloride	0,025	0,025	0,025	0,025	0,025	0,025	0,025
Pyridoxine Hydrochloride	0,025	0,025	0,025	0,025	0,025	0,025	0,025
Roboflavin	0,01	0,01	0,01	0,01	0,01	0,01	0,01
Thiamine Hydrochloride	0,01	0,01	0,01	0,01	0,01	0,01	0,01
Vitamin A Acetate	0,14	0,14	0,14	0,14	0,14	0,14	0,14

### O.C.\*

2 Deoxy-D-Ribose	0,5	0,5	0,5	0,5	0,5	0,5	0,5
Adenine Sulfate	10	10	10	10	10	10	10
Adenosine 5'Monophosphate	0,2385	0,2385	0,2385	0,2385	0,2385	0,2385	0,2385
Adenosine -5-Triphosphate x 2Na	1	1	1	1	1	1	1
Cholesterol	0,2	0,2	0,2	0,2	0,2	0,2	0,2
D-Glucose Anhydrous	1000	1000	1000	1000	1000	1000	1000
D-Ribose	0,5	0,5	0,5	0,5	0,5	0,5	0,5
Guanine	0,3	0,3	0,3	/	0,3	/	/
Guanine + HCl	/	/	/	0,3	/	0,3	0,3
Hepes Free Acid	/	/	/	/	/	5958	5958
Hypoxanthine	0,3	0,3	0,3	0,3	0,3	0,3	0,3
L-Glutathione (Reduced)	0,05	0,05	0,05	0,05	0,05	0,05	0,05
Phenol Red Sodium Salt	21,3	21,3	21,3	21,3	21,3	21,3	21,3
Thymine	0,3	0,3	0,3	0,3	0,3	0,3	0,3
Tween 80	20	20	20	20	20	20	20
Uracil	0,3	0,3	0,3	0,3	0,3	0,3	0,3
Xanthine + Na	0,344	0,344	0,344	0,344	0,344	0,344	0,344

\* Other Components

# Composition

## MEM with Earle's Salts

MEM with Earle's Salts		L0415 Liquid mg/l	L0416 Liquid mg/l	L0430 Liquid mg/l	L0440 Liquid mg/l	L0444 Liquid mg/l	L0445 Liquid mg/l	P0450 Powder mg/l	P0451 Powder mg/l
Amino Acids	Glycine	/	/	7,5	/	/	/	7,5	/
	L-Alanine	/	/	8,9	/	/	/	8,9	/
	L-Alanyl-L-Glutamine	/	434,4	/	/	/	/	/	/
	L-Arginine Monohydrochloride	126	126	126	126	126	126	126	126
	L-Asparagine Monohydrate	/	/	15	/	/	/	15	/
	L-Aspartic Acid	/	/	13,3	/	/	/	13,3	/
	L-Cystine Dihydrochloride	31,3	31,3	31,3	31,3	31,3	31,3	31,3	31,3
	L-Glutamic Acid	/	/	14,7	/	/	/	14,7	/
	L-Glutamine	292	/	/	/	292	/	292	292
	L-Histidine Monohydrochloride Monohydrate	42	42	42	42	42	42	42	42
	L-Isoleucine	52	52	52	52	52	52	52	52
	L-Leucine	52	52	52	52	52	52	52	52
	L-Lysine Monohydrochloride	72,5	72,5	72,5	72,5	72,5	72,5	72,5	72,5
	L-Methionine	15	15	15	15	15	15	15	15
	L-Phenylalanine	32	32	32	32	32	32	32	32
	L-Proline	/	/	11,5	/	/	/	11,5	/
	L-Serine	/	/	10,5	/	/	/	10,5	/
L-Threonine	48	48	48	48	48	48	48	48	
L-Tryptophan	10	10	10	10	10	10	10	10	
L-Tyrosine Disodium Salt Dihydrate	51,9	51,9	51,9	51,9	51,9	51,9	51,9	51,9	
L-Valine	46	46	46	46	46	46	46	46	
Inorganic Salts	Calcium Chloride	265	265	265	265	265	265	265	200
	Magnesium Sulfate Anhydrous	97,67	97,67	97,67	97,67	97,67	97,67	97,67	97,67
	Potassium Chloride	400	400	400	400	400	400	400	400
	Sodium Bicarbonate	2200	2200	2200	2200	2200	2200	/	/
	Sodium Chloride	6800	6800	6800	6800	5500	5500	6800	6800
	Sodium Phosphate Monobasic Anhydrous	122	122	122	122	122	122	122	122
Vitamins	Choline Chloride	1	1	1	1	1	1	1	1
	D-Ca Pantothenate	1	1	1	1	1	1	1	1
	Folic Acid	1	1	1	1	1	1	1	1
	Myo-Inositol	2	2	2	2	2	2	2	2
	Nicotinamide	1	1	1	1	1	1	1	1
	Pyridoxal Hydrochloride	1	/	1	1	1	1	1	1
	Pyridoxine Hydrochloride	/	1	/	/	/	/	/	/
	Riboflavin	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1
	Thiamine Hydrochloride	1	1	1	1	1	1	1	1
O.C.*	D-Glucose Anhydrous	1000	1000	1000	1000	1000	1000	1000	1000
	Hepes Free Acid	/	/	/	/	5958	5958	/	/
	Phenol Red Sodium Salt	11	11	11	11	11	11	11	11

\* Other Components



MEM with Hanks' Salts		L0465 Liquid mg/l	L0470 Liquid mg/l	P0515 Powder mg/l
Amino Acids	Glycine	/	/	7,5
	L-Alanine	/	/	8,9
	L-Arginine Monohydrochloride	126	126	126
	L-Asparagine Monohydrate	/	/	15
	L-Aspartic Acid	/	/	13,3
	L-Cystine Dihydrochloride	31,3	31,3	31,3
	L-Glutamic Acid	/	/	14,7
	L-Glutamine	/	/	292
	L-Histidine Monohydrochloride Monohydrate	42	42	42
	L-Isoleucine	52	52	52
	L-Leucine	52	52	52
	L-Lysine Monohydrochloride	72,5	72,5	72,5
	L-Methionine	15	15	15
	L-Phenylalanine	32	32	32
	L-Proline	/	/	11,5
	L-Serine	/	/	10,5
	L-Threonine	48	48	48
	L-Tryptophan	10	10	10
	L-Tyrosine Disodium Salt Dihydrate	51,9	51,9	51,9
	L-Valine	46	46	46
Inorganic Salts	Calcium Chloride Dihydrate	185	185	185
	Magnesium Sulfate Anhydrous	97,67	97,67	97,67
	Potassium Chloride	400	400	400
	Potassium Phosphate Monobasic Anhydrous	60	60	60
	Sodium Bicarbonate	350	350	/
	Sodium Chloride	8000	7500	8000
	Sodium Phosphate Dibasic Anhydrous	47,88	47,88	47,88
Vitamins	Choline Chloride	1	1	1
	D-Ca Pantothenate	1	1	1
	Folic Acid	1	1	1
	Myo-Inositol	2	2	2
	Nicotinamide	1	1	1
	Pyridoxine Hydrochloride	1	1	1
	Riboflavin	0,1	0,1	0,1
	Thiamine Hydrochloride	1	1	1
O.C.*	D-Glucose Anhydrous	1000	1000	1000
	Hepes Free Acid	/	5958	/
	Phenol Red Sodium Salt	11	11	11

\* Other Components

# Composition

## MEM Alpha Modification

		L0475 Liquid mg/l	L0476 Liquid mg/l	P0440 Powder mg/l
Amino Acids	Glycine	50	50	50
	L-Alanine	25	25	25
	L-Arginine Monohydrochloride	126	126	126
	L-Asparagine Monohydrate	50	50	50
	L-Aspartic Acid	30	30	30
	L-Cysteine Monohydrochloride Monohydrate	100	100	100
	L-Cystine Dihydrochloride	31,3	31,3	31,3
	L-Glutamic Acid	75	75	75
	L-Glutamine	292	/	292
	L-Histidine Monohydrochloride Monohydrate	42	42	42
	L-Isoleucine	52	52	52
	L-Leucine	52	52	52
	L-Lysine Monohydrochloride	72,5	72,5	72,5
	L-Methionine	15	15	15
	L-Phenylalanine	32	32	32
	L-Proline	40	40	40
	L-Serine	25	25	25
	L-Threonine	48	48	48
	L-Tryptophan	10	10	10
	L-Tyrosine Disodium Salt Dihydrate	51,9	51,9	51,9
	L-Valine	46	46	46
Inorganic Salts	Calcium Chloride Dihydrate	265	265	265
	Magnesium Sulfate Anhydrous	97,67	97,67	97,67
	Potassium Chloride	400	400	400
	Sodium Bicarbonate	2200	2200	/
	Sodium Chloride	6800	6800	6800
	Sodium Phosphate Monobasic Anhydrous	122	122	122
Vitamins	Ascorbic Acid	50	50	50
	Choline Chloride	1	1	1
	D-Biotin	0,1	0,1	0,1
	D-Ca Pantothenate	1	1	1
	Folic Acid	1	1	1
	Myo-Inositol	2	2	2
	Nicotinamide	1	1	1
	Pyridoxal Hydrochloride	1	1	1
	Riboflavin	0,1	0,1	0,1
	Thiamine Hydrochloride	1	1	1
	Vitamin B12	1,36	1,36	1,36
O.C.*	D-Glucose Anhydrous	1000	1000	1000
	Phenol Red Sodium Salt	11	11	11
	Sodium Pyruvate	110	110	110
	Thioctic Acid	0,2	0,2	0,2

\* Other Components

# Composition



## RPMI 1640 Medium (liquid)

	L0490 Liquid mg/l	L0492 Liquid mg/l	L0495 Liquid mg/l	L0496 Liquid mg/l	L0498 Liquid mg/l	L0500 Liquid mg/l	L0501 Liquid mg/l	L0503 Liquid mg/l	L0505 Liquid mg/l
<b>Amino Acids</b>									
Glycine	10	10	10	10	10	10	10	10	10
L-Alanyl-L-Glutamine	/	/	/	446	446	/	/	/	/
L-Arginine Free Base	200	200	200	200	200	200	200	200	200
L-Asparagine Anhydrous	50	50	50	50	50	50	50	50	50
L-Aspartic Acid	20	20	20	20	20	20	20	20	20
L-Cystine Dihydrochloride	65,2	65,2	65,2	65,2	65,2	65,2	65,2	65,2	65,2
L-Glutamic Acid	20	20	20	20	20	20	20	20	20
L-Glutamine	/	/	300	/	/	300	/	/	/
L-Histidine	15	15	15	15	15	15	15	15	15
L-Hydroxy-L-Proline	20	20	20	20	20	20	20	20	20
L-Isoleucine	50	50	50	50	50	50	50	50	50
L-Leucine	50	50	50	50	50	50	50	50	50
L-Lysine Monhydrochloride	40	40	40	40	40	40	40	40	40
L-Methionine	15	15	15	15	15	15	15	15	15
L-Phenylalanine	15	15	15	15	15	15	15	15	15
L-Proline	20	20	20	20	20	20	20	20	20
L-Serine	30	30	30	30	30	30	30	30	30
L-Threonine	20	20	20	20	20	20	20	20	20
L-Tryptophan	5	5	5	5	5	5	5	5	5
L-Tyrosine Disodium Salt Dihydrate	28,83	28,83	28,83	28,83	28,83	28,83	28,83	28,83	28,83
L-Valine	20	20	20	20	20	20	20	20	20
<b>Inorganic Salts</b>									
Calcium Nitrate Tetrahydrate	100	100	100	100	100	100	100	100	100
Magnesium Sulfate Anhydrous	48,84	48,84	48,84	48,84	48,84	48,84	48,84	48,84	48,84
Potassium Chloride	400	400	400	400	400	400	400	400	400
Sodium Bicarbonate	2000	1000	2000	2000	2000	2000	2000	2000	2000
Sodium Chloride	6000	6400	6000	6000	6000	6000	6000	6000	6000
Sodium Phosphate Dibasic Anhydrous	800	800	800	800	800	800	800	800	800
<b>Vitamins</b>									
Choline Chloride	3	3	3	3	3	3	3	3	3
D-Biotin	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2
D-Ca Pantothenate	0,25	0,25	0,25	0,25	0,25	0,25	0,25	0,25	0,25
Folic Acid	1	1	1	1	1	1	1	/	1
Myo-Inositol	35	35	35	35	35	35	35	35	35
Nicotinamide	1	1	1	1	1	1	1	1	1
P-Aminobenzoic Acid (PABA)	1	1	1	1	1	1	1	1	1
Pyridoxine Hydrochloride	1	1	1	1	1	1	1	1	1
Riboflavin	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2
Thiamine Hydrochloride	1	1	1	1	1	1	1	1	1
Vitamin B12	0,005	0,005	0,005	0,005	0,005	0,005	0,005	0,005	0,005
<b>O.C.*</b>									
D-Glucose Anhydrous	2000	2000	2000	2000	2000	2000	2000	2000	2000
Hepes Free Acid	5960	4770	5960	5960	/	/	/	/	/
L-Glutathione Reduced	1	1	1	1	1	1	1	1	1
Phenol Red Sodium Salt	5,3	5,3	5,3	5,3	5,3	5,3	5,3	5,3	/

\* Other Components

# Composition

## RPMI 1640 Medium (Powder)

	P0860 Powder mg/l	P0870 Powder mg/l	P0871 Powder mg/l	P0876 Powder mg/l	P0883 Powder mg/l	P0880 Powder mg/l
Amino acids	Glycine	10	10	10	10	10
	L-Alanyl-L-Glutamine (Glutamine Stable)	/	/	/	/	/
	L-Arginine Free Base	200	200	200	/	200
	L-Arginine Monohydrochloride	/	/	/	241,9	/
	L-Asparagine Anhydrous	50	50	50	50	50
	L-Aspartic Acid	20	20	20	20	20
	L-Cystine	/	/	/	50	/
	L-Cystine Dihydrochloride	65,2	65,2	65,2	/	65,2
	L-Glutamic Acid	20	20	20	20	20
	L-Glutamine	300	/	/	300	300
	L-Histidine	15	15	15	15	15
	L-Hydroxy-L-Proline	20	20	20	20	20
	L-Isoleucine	50	50	50	50	50
	L-Leucine	50	50	50	50	50
	L-Lysine Monhydrochloride	40	40	40	40	40
	L-Methionine	15	15	15	15	15
	L-Phenylalanine	15	15	15	15	15
	L-Proline	20	20	20	20	20
	L-Serine	30	30	30	30	30
	L-Threonine	20	20	20	20	20
Inorganic salts	L-Tryptophan	5	5	5	5	5
	L-Tyrosine	/	/	/	20	/
	L-Tyrosine Disodium Salt Dihydrate	28,83	28,83	28,83	/	28,83
	L-Valine	20	20	20	20	20
	Calcium Nitrate Tertahydrate	100	100	100	100	100
	Magnesium Sulfate Anhydrous	48,84	48,84	48,84	/	48,84
	Magnesium Sulfate Heptahydrate	/	/	/	100	/
Vitamins	Potassium Chloride	400	400	400	400	400
	Sodium Bicarbonate	/	/	/	/	/
	Sodium Chloride	6000	6000	6000	5500	6000
	Sodium Phosphate Dibasic Anhydrous	800	800	800	800	800
	Choline Chloride	3	3	3	3	3
	D-Biotin	0,2	0,2	0,2	0,2	0,2
	D-Ca Pantothenate	0,25	0,25	0,25	0,24	0,25
	Folic Acid	1	1	1	1	1
	Myo-Inositol	35	35	35	35	35
	Nicotinamide	1	1	1	1	1
	P-Aminobenzoic Acid (PABA)	1	1	1	1	1
	Pyridoxine Hydrochloride	1	1	1	1	1
	Riboflavin	0,2	0,2	0,2	0,2	0,2
O.C.*	Thiamine Hydrochloride	1	1	1	1	1
	Vitamin B12	0,005	0,005	0,005	0,005	0,005
	D-Glucose Anhydrous	2000	2000	2000	2000	/
	Hepes Free Acid	/	/	/	5958	/
	L-Glutathione Reduced	1	1	1	1	1
	Phenol Red Sodium Salt	5,3	5,3	/	/	5,3

\* Other Components

# Composition



Schneider's Drosophila Medium		L0207 Liquid mg/l
Amino Acids	Beta Alanine	500
	Glycine	250
	L-Arginine Free Base	600
	L-Aspartic Acid	400
	L-Cysteine Monohydrochloride Monohydrate	78,588
	L-Cystine Dihydrochloride	26,732
	L-Glutamic Acid	800
	L-Glutamine	1800
	L-Histidine	400
	L-Isoleucine	150
	L-Leucine	150
	L-Lysine Monhydrochloride	1650
	L-Methionine	150
	L-Proline	1700
	L-Serine	250
	L-Threonine	350
	L-Tryptophan	100
	L-Tyrosine Disodium Salt Dihydrate	720,199
	L-Valine	300
Inorganic Salts	Calcium Chloride Anhydrous	600
	Magnesium Sulfate Anhydrous	1807,221
	Potassium Chloride	1600
	Potassium Phosphate Monobasic Anhydrous	450
	Sodium Bicarbonate	400
	Sodium Chloride	2100
	Sodium Phosphate Dibasic Anhydrous	700
	Succinic Acid	60
O.C.*	Alpha-Ketoglutaric Acid	350
	D(+)-Trehalose Dihydrate	2000
	D-Glucose Anhydrous	2000
	Fumaric Acid	60
	L-Malic Acid	600
	Yeast Extract	2000

\* Other Components

# Composition

## Serum Reduced Media MCDB

L1203  
Liquid  
mg/l

L1203  
Liquid  
mg/l

### Amino Acids

Glycine	7,51
L-Alanine	8,91
L-Arginine Monohydrochloride	210,7
L-Asparagine Monohydrate	15
L-Aspartic Acid	3,99
L-Cysteine Monohydrochloride Monohydrate	42,04
L-Glutamic Acid	14,71
L-Glutamine	877,2
L-Histidine Monohydrochloride Monohydrate	16,77
L-Isoleucine	1,968
L-Leucine	65,6
L-Lysine Monohydrochloride	18,27
L-Methionine	4,476
L-Phenylalanine	4,956
L-Proline	34,53
L-Serine	63,06
L-Threonine	11,91
L-Tryptophan	3,06
L-Tyrosine	/
L-Tyrosine Disodium Salt Dihydrate	3,92
L-Valine	35,13

### Vitamins

Choline Chloride	13,96
D-Biotin	0,0146
D-Ca Pantothenate	0,238
Folinic Acid	0,79
Myo-Inositol	18,02
Nicotinamide	0,0366
Pyridoxine Hydrochloride	0,0617
Riboflavin	0,0376
Thiamine Hydrochloride	0,337
Vitamin B12	0,407

### O.C.\*

Adenine Monohydrochloride	30,88
D-Glucose Anhydrous	1081
Hepes Free Acid	6600
Linoleic Acid	/
Phenol Red Sodium Salt	1,242
Putrescine + 2HCl	0,1611
Sodium Pyruvate	55
Thioctic Acid	0,2063
Thymidine	0,727

\* Other Components

### Inorganic Salts

Ammonium Metavanadate	/
Ammonium Molybdate Tetrahydrate	/
Calcium Chloride Dihydrate	4,411
Cupric Sulfate Pentahydrate	0,0025
Ferrous Sulfate Heptahydrate	0,417
Magnesium Chloride Hexahydrate	122
Magnesium Sulfate Anhydrous	/
Magnesium Sulfate Heptahydrate	/
Manganese Sulfate Monohydrate	/
Nickel Chloride Hexahydrate	/
Potassium Chloride	111,83
Potassium Phosphate Monobasic Anhydrous	/
Sodium Acetate Anhydrous	301,53
Sodium Bicarbonate	1176
Sodium Chloride	7599
Sodium Metasilicate Nonahydrate	/
Sodium Phosphate Dibasic Anhydrous	284,088
Sodium Selenite	/
Stannous Chloride Dihydrate	/
Zinc Sulfate Heptahydrate	0,863

# Composition



Dulbecco's Phosphate Buffered Saline DPBS		L0615 Liquid mg/l	X0515 Liquid mg/l	X0520 Liquid mg/l	P0750 Powder mg/l
Inorganic Salts	Calcium Chloride Dihydrate	/	/	1330	/
	Magnesium Chloride Hexahydrate	/	/	1000	/
	Potassium Chloride	200	2000	2000	200
	Potassium Phosphate Monobasic Anhydrous	200	2000	2000	200
	Sodium Chloride	8000	80000	80000	8000
	Sodium Phosphate Dibasic Anhydrous	1150	11500	11500	1150

Earl's Balanced Salts Solution EBSS		L0601 Liquid mg/l	L0602 Liquid mg/l	X0112 Liquid mg/l	X0113 Liquid mg/l
Inorganic Salts	Calcium Chloride Dihydrate	/	265	2650	/
	Magnesium Sulfate Anhydrous	/	97,67	976,7	/
	Potassium Chloride	400	400	4000	4000
	Sodium Bicarbonate	2200	2200	/	/
	Sodium Chloride	6800	6800	68000	68000
	Sodium Phosphate Monobasic Anhydrous	122	122	1220	1220

O.C.*	D-Glucose Anhydrous	1000	1000	10000	10000
	Phenol Red Sodium Salt	11	11	110	110

Hank's Balanced Salts Solution HBSS		L0605 Liquid mg/l	L0606 Liquid mg/l	L0607 Liquid mg/l	L0611 Liquid mg/l	L0612 Liquid mg/l
Inorganic Salts	Calcium Chloride Dihydrate	/	185	/	/	185
	Magnesium Sulfate Anhydrous	/	97,67	/	/	97,67
	Potassium Chloride	400	400	400	400	400
	Potassium Phosphate Monobasic Anhydrous	60	60	60	60	60
	Sodium Bicarbonate	/	350	350	350	350
	Sodium Chloride	8000	8000	8000	8000	8000
	Sodium Phosphate Dibasic Anhydrous	47,88	47,88	47,88	47,88	47,88

O.C.*	D-Glucose Anhydrous	1000	1000	1000	1000	1000
	Phenol Red Sodium Salt	/	11	/	11	/

Hank's Balanced Salts Solution HBSS		X0507 Liquid mg/l	X0509 Liquid mg/l	X0510 Liquid mg/l	X0513 Liquid mg/l	P0153 Powder mg/l	P0154 Powder mg/l
Inorganic Salts	Calcium Chloride Dihydrate	/	1850	/	/	/	185
	Magnesium Sulfate Anhydrous	/	976,7	/	/	/	97,68
	Potassium Chloride	4000	4000	4000	4000	400	400
	Potassium Phosphate Monobasic Anhydrous	600	600	600	600	60	60
	Sodium Bicarbonate	/	/	3500	/	/	/
	Sodium Chloride	80000	80000	80000	80000	8000	8000
	Sodium Phosphate Dibasic Anhydrous	478,8	478,8	478,8	478,8	47,88	47,88

O.C.*	D-Glucose Anhydrous	10000	10000	10000	10000	1000	1000
	Phenol Red Sodium Salt	/	110	/	110	/	11

\* Other Components

# Composition

## Other Salt Solution and Salts

	L0680 Liquid mg/l	L0640 Liquid mg/l	L0642 Liquid mg/l	L0643 Liquid mg/l	L0630 Liquid mg/l
Inorganic Salts	EDTA Disodium Salt Dihydrate	/	/	/	292
	Potassium Chloride	/	/	5590	193
	Potassium Phosphate Monobasic Anhydrous	/	/	/	190
	Sodium Bicarbonate	75000	/	/	/
	Sodium Chloride	/	8500	/	7995
	Sodium Phosphate Dibasic Anhydrous	/	/	/	1150
	Sodium Pyruvate	/	/	11000	/
O.C.*	Monohydrate	/	/	/	198

## Trypsin

	L0909 Liquid mg/l	L0910 Liquid mg/l	L0930 Liquid mg/l	L0931 Liquid mg/l	L0932 Liquid mg/l
Inorganic Salts	EDTA Disodium Salt Dihydrate	/	/	221,4	380
	Potassium Chloride	200	200	400	400
	Potassium Phosphate Monobasic Anhydrous	200	200	/	60
	Sodium Bicarbonate	/	/	580	350
	Sodium Chloride	8000	8000	8000	8000
	Sodium Phosphate Dibasic Anhydrous	1150	1150	/	48
O.C.*	D-Glucose Anhydrous	1000	1000	1000	1000
	Phenol Red Sodium Salt	2	/	2	10
	Trypsin 1:250	2500	2500	500	2500

## Trypsin

	X0920 Liquid mg/l	L0940 Liquid mg/l	X0930 Liquid mg/l	P0940 Powder mg/l	L0941 Liquid mg/l
Inorganic Salts	EDTA Disodium Salt Dihydrate	/	254,8	2214	2548
	Potassium Chloride	400	200	4000	/
	Potassium Phosphate Monobasic Anhydrous	60	200	/	/
	Sodium Bicarbonate	350	/	/	/
	Sodium Chloride	8000	7950	8000	8040
	Sodium Phosphate Dibasic Anhydrous	47,88	1150	/	/
O.C.*	D-Glucose Anhydrous	1000	1000	10000	/
	Phenol Red Sodium Salt	/	/	/	/
	Trypsin 1:250	25000	500	5000	500
	Recombinant Trypsin 2500 USP	/	/	/	50

\* Other Components

# Standard Terms of Sale

The standard terms of sale and delivery shall be deemed to have been accepted for any order placed with our company. In the event of dispute, our terms cancel any conflicting clauses and terms printed on the orders or correspondence from buyers. Amendments of the initial agreement or any secondary agreement shall be valid only if they have been entered into in writing.

## 1- Products

The specifications and figures mentioned in our catalogues are given for information and without commitment. Biowest reserves the right to change its products without notice, depending on improvements imposed by the technical development.

## 2- Orders

Orders may be sent by letter or e-mail. Orders shall be final only when Biowest has confirmed them in writing. They must include :

- the numbers of our catalogues or our offers. If the description is vague, if we ourselves have to make a choice, we disclaim liability on this account. The buyer shall bear any costs of return for the resulting non-compliance.
- delivery and invoicing addresses
- Inter-community VAT number

## 3- Deliveries

### 3.1- Delivery time

Delivery time shall be confirmed upon receipt of your order. If the products are not in stock, a delivery time shall be proposed for information, subject to accidental cases and force majeure. No penalty for late performance or damage may be claimed in the event said deliver times are not respected. Biowest shall choose the method of dispatch that it considers to be the most suitable for its customer, if the latter has not expressed special requirements.

### 3.2- Accidental cases and force majeure

Biowest shall be released from its obligation to deliver in the event of any accidental case or force majeure event that impedes either the manufacturing, dispatch or import into France. A force majeure

event means any event beyond our control, which results in delaying or preventing the performance that could not be reasonably controlled or avoided.

## 4- Price and invoicing

The prices on catalogues, printed leaflets, price lists or on-line are given for information. Biowest reserves the right to amend same, without notice. Our prices are guaranteed for the term of validity of the offer or the estimate, apart from the change in the price of raw materials, exchange rates of foreign currencies or customs duties. The prices invoiced shall always be those in force on the date of the actual delivery. Unless otherwise specified in writing, our prices are quoted net and excluding tax. Transport costs are defined in relation to volumes and end destinations.

## 5- Payment

### 5.1- Terms and conditions

Our invoices are payable by cheque, bank or postal transfer, revocable letter of credit, within 30 days, date of invoicing net and without discount, unless otherwise agreed in writing. Biowest reserves the right to claim an advance payment or a part payment prior to the fulfilment of the order.

### 5.2- Penalty clause and event of default clause

By express agreement and except with Biowest's prior agreement, the non payment of an invoice at due date shall give rise, by operation of law, regardless of the method of payment :

- to a minimum interest of 3 times the legal interest rate set by decree on 1 January of each year,
- The immediate payability of all outstanding amounts.



## Standard Terms of Sale

Costs, outlay and expenses incurred by Biowest to obtain the payment of goods shall be borne by the customer under Article 700 of the French Code of Civil Procedure (French acronym N.C.P.C.): fixed allowance for recovery costs: EUR 40. Moreover, pending regularisation, Biowest reserves the right to suspend any subsequent deliveries.

### 6- Warranty of services and reservations

#### 6.1- Claims

The customer must check upon receipt of the products that the delivery is indeed compliant with its order. Any claim relating to transport should be made to our services within 48 hours and mentioned on the carrier's receipt. For any other non-apparent defect, we should be notified thereof within a maximum period of 3 months after receipt of the products and product storage instructions should be respected pending our instructions.

#### 6.2 - Claim for partially thawed Serum

We do not accept claims if Animal Serum is delivered partially thawed, and we will not replace it free of charge, as our tests show a very good stability of the product even in these conditions.

#### 6.3- Return

No return shall be accepted without the prior and written agreement of our sales department, which shall specify the terms and conditions of return. The returned products shall be credited, less a fixed amount for the costs of control and return to stock of 15% of the sale price, with a minimum of EUR 35 and only if they are in their original condition.

#### 6.4- Scope of the warranty

The user must decide that said product is suitable for its specific application. The products of our catalogue are devised for scientific purposes only (use in-vitro exclusively). They may not be used as drugs, annex therapeutical products,

pharmaceutical or cosmetic preparations, farm product and human or veterinary use products. The buyer shall be solely responsible for their use.

#### 6.5- Transfer of risks

Our goods and their packaging shall always travel at the buyer's risks, even if they are dispatched carriage paid. We disclaim any liability for alterations occurring during transport. In the event of any damage, the consignee shall be responsible for notifying the carrier who made delivery of the losses and damage observed upon arrival, by registered letter within three days following receipt of the goods, in compliance with the regulations of Article 105 of the French Commercial Code and in general for bringing any claim against the carrier.

### 7- Retention of title clause

The seller reserves title to the goods until the price thereof in principal and interest has been paid in full. Failing payment of the price at the agreed due date, the seller may take back the goods. The sale shall be cancelled by operation of law if the seller sees fit and it shall be entitled to part payments already paid in consideration of any use of the goods by the buyer.

### 8- Disputes

Courts in the jurisdiction of the place of the company's registered office shall have sole jurisdiction in the event of a dispute of any kind or a dispute relating to the formation or fulfilment of the order. French law only shall govern orders placed with Biowest.

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## Glossary (by catalog n°)

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A0296-1000	1000 ml	BSA 30%	17
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D1010-1000	1000 ml	Bioguard-S	51
<b>D1020-100</b>	<b>100 ml</b>	<b>Bioguard-A</b>	<b>51</b>
L0009-050	50 ml	Amphotericin B	44
L0009-100	100 ml	Amphotericin B	44
<b>L0010-020</b>	<b>20 ml</b>	<b>Antibiotic-Antimycotic 100X</b>	<b>44</b>
<b>L0010-100</b>	<b>100 ml</b>	<b>Antibiotic-Antimycotic 100X</b>	<b>44</b>
L0011-010	10 ml	Gentamicin Sulfate 10 mg/ml	44
L0011-100	100 ml	Gentamicin Sulfate 10 mg/ml	44
<b>L0012-010</b>	<b>10 ml</b>	<b>Gentamicin Sulfate 50 mg/ml</b>	<b>44</b>
<b>L0012-100</b>	<b>100 ml</b>	<b>Gentamicin Sulfate 50 mg/ml</b>	<b>44</b>
L0014-100	100 ml	Glutamine-Penicillin-Streptomycin 100X	44
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<b>L0022-100</b>	<b>100 ml</b>	<b>Penicillin-Streptomycin Solution 100X</b>	<b>45</b>
L0040-010	10 ml	Colcemid 10 µg/ml in PBS	50
L0040-020	20 ml	Colcemid 10 µg/ml in PBS	50
L0040-050	50 ml	Colcemid 10 µg/ml in PBS	50
<b>L0042-500</b>	<b>500 ml</b>	<b>BME w/ Earle's Salts w/o L-Glutamine</b>	<b>24</b>
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L0064-500	500 ml	DMEM Low Glucose w/o L-Glutamine w/ Sodium Pyruvate	26
L0065-500	500 ml	DMEM Low Glucose w/ L-Glutamine w/ Sodium Pyruvate w/ 25 mM Hepes	26
L0066-500	500 ml	DMEM Low Glucose w/ Stable Glutamine w/ Sodium Pyruvate	26
<b>L0090-500</b>	<b>500 ml</b>	<b>DMEM - F12 w/o L- Glutamine w/o Hepes</b>	<b>26</b>
<b>L0091-500</b>	<b>500 ml</b>	<b>DMEM - F12 w/o L-Glutamine w/o Hepes w/o Glucose</b>	<b>26</b>
<b>L0092-500</b>	<b>500 ml</b>	<b>DMEM - F12 w/ stable Glutamine w/ 15 mM Hepes</b>	<b>26</b>
<b>L0093-500</b>	<b>500 ml</b>	<b>DMEM - F12 w/ L-Glutamine w/ 15 mM Hepes</b>	<b>27</b>
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<b>L0095-500</b>	<b>500 ml</b>	<b>DMEM - F12 w/ L-Glutamine w/ 25 mM Hepes</b>	<b>27</b>
<b>L0096-500</b>	<b>500 ml</b>	<b>DMEM - F12 w/o L-Glutamine w/ 25 mM Hepes</b>	<b>27</b>
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L0101-500	500 ml	DMEM High Glucose w/o L-Glutamine w/o Sodium Pyruvate	25
L0102-500	500 ml	DMEM High Glucose w/ L-Glutamine w/o Sodium Pyruvate	25
L0103-500	500 ml	DMEM High Glucose w/ stable Glutamine w/ Sodium Pyruvate	25
L0104-500	500 ml	DMEM High Glucose w/ L-Glutamine w/ Sodium Pyruvate	25
L0106-500	500 ml	DMEM High Glucose w/o L-Glutamine w/ Sodium Pyruvate	25
L0107-500	500 ml	DMEM High Glucose w/ stable Glutamine w/ 25mM Hepes w/o Sodium Pyruvate	25
<b>L0135-500</b>	<b>500 ml</b>	<b>Ham's F12 w/ L-Glutamine</b>	<b>28</b>
<b>L0136-500</b>	<b>500 ml</b>	<b>Ham's F12 w/o L-Glutamine</b>	<b>28</b>
L0138-500	500 ml	Ham's F14 w/ 6g/L Glucose w/ 1mg/L ATP	29
<b>L0130-500</b>	<b>500 ml</b>	<b>Ham's F10 w/ L-Glutamine w/ 25 mM Hepes</b>	<b>28</b>
<b>L0140-500</b>	<b>500 ml</b>	<b>Ham's F10 w/ L-Glutamine</b>	<b>28</b>
<b>L0145-500</b>	<b>500 ml</b>	<b>Ham's F10 w/o L-Glutamine</b>	<b>28</b>
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L0180-500	500 ml	HEPES Buffer 1 M	42
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<b>L0191-500</b>	<b>500 ml</b>	<b>IMDM w/ stable Glutamine w/ 25mM Hepes</b>	<b>29</b>
<b>L0192-500</b>	<b>500 ml</b>	<b>IMDM w/o L-Glutamine w/o Hepes</b>	<b>29</b>
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L0221-500	500 ml	Glasgow MEM BHK 21 w/ L-Glutamine w/o Tryptose Phosphate Broth	27
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L0355-500	500 ml	Medium 199 w/ Earle's Mod. Salts w/ L-Glutamine w/ 1.25g/l Sodium Bicarbonate	31
L0356-500	500 ml	Medium 199 w/ Earle's Salts w/o L-Glutamine	31
L0361-500	500 ml	Medium 199 w/ Earle's Salts w/ Stable Glutamine w/ 25 mM Hepes	31
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<b>L0430-500</b>	<b>500 ml</b>	<b>MEM w/ Earle's Salts w/o L-Glutamine w/ NEAA</b>	<b>32</b>
<b>L0440-500</b>	<b>500 ml</b>	<b>MEM w/ Earle's Salts w/o L-Glutamine</b>	<b>32</b>
<b>L0444-500</b>	<b>500 ml</b>	<b>MEM w/ Earle's Salts w/ L-Glutamine w/ 25 mM Hepes</b>	<b>32</b>

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L0465-500	500 ml	MEM w/ Hanks' Salts Solution w/o L-Glutamine.....	33
L0470-500	500 ml	MEM w/ Hanks' Salts w/o L-Glutamine w/ 25 mM Hepes.....	33
L0475-500	500 ml	MEM Alpha w/ L-Glutamine w/o Ribonucleosides w/o Deoxyribonucleosides.....	33
L0476-500	500 ml	MEM Alpha w/o L-Glutamine w/o Ribonucleosides w/o Deoxyribonucleosides.....	33
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L0492-500	500 ml	RPMI 1640 Dutch Modification w/o L-Glutamine w/ 1g/l Sodium Bicarbonate w/20mM Hepes.....	34
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L0498-500	500 ml	RPMI 1640 w/ stable Glutamine.....	34
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L0501-100	100 ml	RPMI 1640 w/o L-Glutamine.....	34
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L0505-500	500 ml	RPMI 1640 w/o L-Glutamine w/o Phenol Red.....	34
L0560-100	100 ml	Lymphosep, Lymphocyte Separation Media.....	50
L0560-500	500 ml	Lymphosep, Lymphocyte Separation Media.....	50
L0601-500	500 ml	Earle's Balanced Salts Solution w/o Calcium w/o Magnesium.....	40
L0602-500	500 ml	Earle's Balanced Salts Solution w/ Calcium w/ Magnesium.....	40
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L0607-500	500 ml	HBSS w/o Calcium w/o Magnesium w/ Sodium Bicarbonate w/o Phenol Red.....	41
L0611-500	500 ml	HBSS w/o Calcium w/o Magnesium w/ Sodium Bicarbonate w/ Phenol Red.....	41
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L0615-1000	1 L	Dulbecco's Phosphate Buffered Saline w/o Calcium w/o Magnesium.....	40
L0615-500	500 ml	Dulbecco's Phosphate Buffered Saline w/o Calcium w/o Magnesium.....	40
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L0643-500	500 ml	Potassium Chloride 0.075 M.....	42
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L0931-500	500 ml	Trypsin 0.25% - EDTA in HBSS w/o Calcium w/o Magnesium w/ Phenol Red.....	47
L0932-100	100 ml	Trypsin 0.25% - EDTA 0.02% in HBSS w/o Calcium w/o Magnesium w/ Phenol Red.....	47
L0940-100	100 ml	Trypsin-EDTA 1X in PBS w/o Calcium w/o Magnesium w/o Phenol Red.....	47
L0940-500	500 ml	Trypsin-EDTA 1X in PBS w/o Calcium w/o Magnesium w/o Phenol Red.....	47
L0941-100	100 ml	Recombinant Trypsin-EDTA 1X in PBS w/o Calcium w/o Magnesium w/o Phenol Red.....	47
L0950-100	100ml	Accutase.....	46
L0970-100	100 ml	Cell Culture Water Pyrogen free.....	51
L0970-1000	1000 ml	Cell Culture Water Pyrogen free.....	51
L0970-500	500 ml	Cell Culture Water Pyrogen free.....	51
L1203-500	500 ml	MCDB 151.....	35
L3010-005	5 ml	Phytohaemagglutinin M (PHA-M) liquid.....	50
LGM-100	100 ml	Lymphogrow Medium.....	35
L-X16-010	10 ml	Nanomycopultine Concentrat 20 x.....	44
L-X16-100	100 ml	Nanomycopultine Concentrat 20 x.....	44
MGM-100	100 ml	MarrowGrow Medium.....	35
P0017-10GR	10 g	G-418 SULFATE.....	45
P0018-1MU	1 M Units	Penicillin G Sodium Salt.....	46
P0030-NIL	For 1 L	BME w/ Earle's Salts w/ L-Glutamine w/o Sodium Bicarbonate.....	24
P0058-N10L	For 10 L	CMRL w/ L-Glutamine w/o Sodium Bicarbonate.....	24
P0058-NIL	For 1 L	CMRL w/ L-Glutamine w/o Sodium Bicarbonate.....	24
P0061-NIL	1 L	DMEM Low Glucose w/ L-Glutamine w/o Sodium Bicarbonate w/ Sodium Pyruvate.....	26
P0061-N10L	10 L	DMEM Low Glucose w/ L-Glutamine w/o Sodium Bicarbonate w/ Sodium Pyruvate.....	26
P0095-N10L	For 10 L	DMEM - F12 w/ L-Glutamine w/o Sodium Bicarbonate w/ 15 mM Hepes.....	27
P0095-NIL	For 1 L	DMEM - F12 w/ L-Glutamine w/o Sodium Bicarbonate w/ 15 mM Hepes.....	27

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CAT N°	Unit / Size	Product.....	page
P0102-N10L	For 10 L	DMEM High Glucose w/ L-Glutamine w/o Sodium Bicarbonate w/ Sodium Pyruvate.....	25
P0102-N1L	For 1 L	DMEM High Glucose w/ L-Glutamine w/o Sodium Bicarbonate w/ Sodium Pyruvate.....	25
P0103-N10L	For 10 L	DMEM High Glucose w/ L-Glutamine w/o Sodium Bicarbonate w/o Sodium Pyruvate.....	25
P0103-N1L	For 1 L	DMEM High Glucose w/ L-Glutamine w/o Sodium Bicarbonate w/o Sodium Pyruvate.....	25
P0120-N10L	For 10 L	Glasgow MEM BHK21 w/ L-Glutamine w/o Sodium Bicarbonate w/o Tryptose Phosphate Broth.....	27
P0120-N1L	For 1 L	Glasgow MEM BHK21 w/ L-Glutamine w/o Sodium Bicarbonate w/o Tryptose Phosphate Broth.....	27
P0134-N10L	For 10 L	Ham's F12 w/ L-Glutamine w/o Sodium Bicarbonate.....	28
P0134-N1L	For 1 L	Ham's F12 w/ L-Glutamine w/o Sodium Bicarbonate.....	28
P0146-N10L	For 10 L	Ham's F10 w/ L-Glutamine w/o Sodium Bicarbonate.....	28
P0146-N1L	For 1 L	Ham's F10 w/ L-Glutamine w/o Sodium Bicarbonate.....	28
P0153-N10L	For 10 L	HBSS w/o Ca w/o Mg w/o Sodium Bicarbonate w/o Phenol Red.....	41
P0153-N1L	For 1 L	HBSS w/o Ca w/o Mg w/o Sodium Bicarbonate w/o Phenol Red.....	41
P0154-N10L	For 10 L	HBSS w/ Calcium w/ Magnesium w/o Sodium Bicarbonate w/ Phenol Red.....	41
P0154-N1L	For 1 L	HBSS w/ Calcium w/ Magnesium w/o Sodium Bicarbonate w/ Phenol Red.....	41
P0191-N10L	For 10 L	Iscove's Modified DMEM w/ L-Glutamine w/o Sodium Bicarbonate w/ 25 mM Hepes.....	29
P0191-N1L	For 1 L	Iscove's Modified DMEM w/ L-Glutamine w/o Sodium Bicarbonate w/ 25 mM Hepes.....	29
P0192-N10L	For 10 L	Iscove's Modified DMEM w/ L-Glutamine w/ 25 mM Hepes w/o Phenol Red.....	29
P0192-N1L	For 1 L	Iscove's Modified DMEM w/ L-Glutamine w/ 25 mM Hepes w/o Phenol Red.....	29
P0350-N10L	For 10 L	Leibovitz L 15 Medium w/ L-Glutamine.....	30
P0350-N1L	For 1 L	Leibovitz L 15 Medium w/ L-Glutamine.....	30
P0390-N10L	For 10 L	McCoy's 5A w/ L-Glutamine w/o Sodium Bicarbonate.....	30
P0390-N1L	For 1 L	McCoy's 5A w/ L-Glutamine w/o Sodium Bicarbonate.....	30
P0410-N10L	For 10 L	Medium 199 modified w/ Hanks' Salts w/o L-Glutamine w/o Sodium Bicarbonate.....	31
P0410-N1L	For 1 L	Medium 199 modified w/ Hanks' Salts w/o L-Glutamine w/o Sodium Bicarbonate.....	31
P0420-N10L	For 10 L	Medium 199 w/ Earle's Salts w/ L-Glutamine w/o Sodium Bicarbonate.....	31
P0420-N1L	For 1 L	Medium 199 w/ Earle's Salts w/ L-Glutamine w/o Sodium Bicarbonate.....	31
P0425-N10L	For 10 L	Medium 199 w/ Earle's Salts w/ L-Glutamine w/o Sodium Bicarbonate w/ 25 mM Hepes.....	31
P0425-N1L	For 1 L	Medium 199 w/ Earle's Salts w/ L-Glutamine w/o Sodium Bicarbonate w/ 25 mM Hepes.....	31
P0440-N10L	For 10 L	MEM Alpha Modification w/ Earle's Salts w/ L-Glutamine w/o Sodium Bicarbonate.....	33
P0440-N1L	For 1 L	MEM Alpha Modification w/ Earle's Salts w/ L-Glutamine w/o Sodium Bicarbonate.....	33
P0450-N10L	For 10 L	MEM w/ Earle's Salts w/ L-Glutamine w/ NEAA w/o Sodium Bicarbonate.....	32
P0450-N1L	For 1 L	MEM w/ Earle's Salts w/ L-Glutamine w/ NEAA w/o Sodium Bicarbonate.....	32
P0451-N10L	For 10 L	MEM w/ Earle's Salts w/ L-Glutamine w/o NEAA w/o Sodium Bicarbonate.....	32
P0451-N1L	For 1 L	MEM w/ Earle's Salts w/ L-Glutamine w/o NEAA w/o Sodium Bicarbonate.....	32
P0515-N10L	For 10 L	MEM w/ Hanks' Salts w/ L-Glutamine w/ NEAA w/o Sodium Bicarbonate.....	33
P0515-N1L	For 1 L	MEM w/ Hanks' Salts w/ L-Glutamine w/ NEAA w/o Sodium Bicarbonate.....	33
P0750-N10L	For 10 L	Dulbecco's Phosphate Buffered Saline w/o Calcium w/o Magnesium.....	39
P0750-N1L	For 1 L	Dulbecco's Phosphate Buffered Saline w/o Calcium w/o Magnesium.....	39
P0860-N10L	For 10 L	RPMI 1640 w/ L-Glutamine w/o Sodium Bicarbonate.....	34
P0860-N1L	For 1 L	RPMI 1640 w/ L-Glutamine w/o Sodium Bicarbonate.....	34
P0870-N10L	For 10 L	RPMI 1640 w/o L-Glutamine w/o Sodium Bicarbonate.....	34
P0870-N1L	For 1 L	RPMI 1640 w/o L-Glutamine w/o Sodium Bicarbonate.....	34
P0871-N10L	For 10 L	RPMI 1640 w/o L-Glutamine w/o Sodium Bicarbonate w/o Phenol Red.....	34
P0871-N1L	For 1 L	RPMI 1640 w/o L-Glutamine w/o Sodium Bicarbonate w/o Phenol Red.....	34
P0876-N10L	For 10 L	RPMI 1640 w/ L-Glutamine w/o Sodium Bicarbonate w/ 25 mM Hepes w/o Phenol Red.....	35
P0876-N1L	For 1 L	RPMI 1640 w/ L-Glutamine w/o Sodium Bicarbonate w/ 25 mM Hepes w/o Phenol Red.....	35
P0880-N10L	For 10 L	RPMI 1640 w/ L-Glutamine w/o Sodium Bicarbonate w/o Phenol Red.....	34
P0880-N1L	For 1 L	RPMI 1640 w/ L-Glutamine w/o Sodium Bicarbonate w/o Phenol Red.....	34
P0883-N10L	For 10 L	RPMI 1640 w/ L-Glutamine w/o Sodium Bicarbonate w/o Glucose.....	35
P0883-N1L	For 1 L	RPMI 1640 w/ L-Glutamine w/o Sodium Bicarbonate w/o Glucose.....	35
P0940-100GR	100 g	Trypsin - EDTA 1X Lyophilised w/ Sodium Chloride.....	47
P1012-100GR	100 g	L-Glutamine.....	49
P1012-1KG	1 kg	L-Glutamine.....	49
P1031-100GR	100 g	L-Alanyl-L-Glutamine, stable Glutamine.....	49
P2035-500GR	500 g	Potassium Chloride.....	42
P2060-500GR	500 g	Sodium Bicarbonate, cell culture tested.....	42
P2064-N5L	For 5 L	Sodium Chloride (for dilution 9 g/l).....	42
P2066-1KG	1 kg	Sodium Chloride.....	42
P4020-1GR	1 g	Gentamicin Sulfate.....	44
P4020-5GR	5 g	Gentamicin Sulfate.....	44
P4030-250MG	250 mg	Amphotericin B.....	44

CAT N°	Unit / Size	Product	page
P5030-500GR	500 g	D-Glucose Monohydrate -Dextrose, cell culture tested	49
P5030-1KG	1 kg	D-Glucose Monohydrate -Dextrose, cell culture tested	49
P5455-100GR	100 g	HEPES, cell culture tested	43
P5455-500GR	500 g	HEPES, cell culture tested	43
P5455-1KG	1 kg	HEPES, cell culture tested	43
P5648-10GR	10 g	Phenol Red Sodium Salt	43
P5957-100GR	100 g	Trypsin 1:250 powder (porcine)	47
P6140-100GR	100 g	Human Serum Albumin	19
P6140-500GR	500 g	Human Serum Albumin	19
P6140-1KG	1 kg	Human Serum Albumin	19
P6154-100GR	100 g	BSA Lyophilised pH ~7	17
P6154-500GR	500 g	BSA Lyophilised pH ~7	17
P6154-1KG	1 kg	BSA Lyophilised pH ~7	17
P6155-100GR	100 g	BSA Protease Free Lyophilised	17
P6155-500GR	500 g	BSA Protease Free Lyophilised	17
P6155-1KG	1 kg	BSA Protease Free Lyophilised	17
P6156-100GR	100 g	BSA Fatty Acids Free Lyophilised	17
P6156-500GR	500 g	BSA Fatty Acids Free Lyophilised	17
P6156-1KG	1 kg	BSA Fatty Acids Free Lyophilised	17
PPM-100	100 ml	Prenaplus Medium	35
S0250-100	100 ml	Bovine Serum (France Origin)	18
S0250-500	500 ml	Bovine Serum (France Origin)	18
S0260-500	500 ml	Bovine Plasma w/ Sodium Citrate	19
S0400-500	500 ml	Calf Serum	18
S0500-500	500 ml	Chicken Serum	18
S0750-500	500 ml	New Born Calf Serum	18
S0800-500	500 ml	Donor Foal Serum	18
S0900-100	100 ml	Donor Horse Serum	18
S0900-500	500 ml	Donor Horse Serum	18
S0910-100	100 ml	Horse Serum	18
S0910-500	500 ml	Horse Serum	18
S1300-100	100 ml	FBS South Africa	12
S1300-500	500 ml	FBS South Africa	12
S1400-100	100 ml	FBS EU Origin	12
S1400-500	500 ml	FBS EU Origin	12
S140B-100	100 ml	FBS EU Origin, Premium	13
S140B-500	500 ml	FBS EU Origin, Premium	13
S1520-100	100 ml	FBS USA	12
S1520-500	500 ml	FBS USA	12
S1530-100	100 ml	FBS Japan approved	12
S1530-500	500 ml	FBS Japan approved	12
S1560-100	100 ml	FBS Chile, USDA approved	12
S1560-500	500 ml	FBS Chile, USDA approved	12
S1580-100	100 ml	FBS Uruguay	12
S1580-500	500 ml	FBS Uruguay	12
S1600-100	100 ml	FBS Central America, USDA approved	12
S1600-500	500 ml	FBS Central America, USDA approved	12
S1650-100	100 ml	FBS Mexico, USDA approved	12
S1650-500	500 ml	FBS Mexico, USDA approved	12
S1810-100	100 ml	FBS South America	12
S1810-500	500 ml	FBS South America	12
S181B-100	100 ml	FBS South America, Premium	13
S181B-500	500 ml	FBS South America, Premium	13
S181D-100	100 ml	FBS South America, Dialysed	15
S181D-500	500 ml	FBS South America, Dialysed	15
S181F-100	100 ml	FBS South America, Charcoal Stripped	14
S181F-500	500 ml	FBS South America, Charcoal Stripped	14
S181G-100	100 ml	FBS South America, Gamma Irradiated	14
S181G-500	500 ml	FBS South America, Gamma Irradiated	14
S181H-100	100 ml	FBS South America, Heat Inactivated	14
S181H-500	500 ml	FBS South America, Heat Inactivated	14
S181L-100	100 ml	FBS South America, Lipid Depleted	15
S181L-500	500 ml	FBS South America, Lipid Depleted	15
S181M-050	50 ml	FBS South America, Exosome Depleted	16
S181M-100	100 ml	FBS South America, Exosome Depleted	16
S181M-500	500 ml	FBS South America, Exosome Depleted	16
S181R-100	100 ml	FBS South America, Iron Supplemented	15
S181R-500	500 ml	FBS South America, Iron Supplemented	15
S181I-500	500 ml	FBS South America, IgG Depleted	15
S181S-100	100 ml	FBS South America, Embryonic Stem Cells tested	16
S181S-500	500 ml	FBS South America, Embryonic Stem Cells tested	16
S181T-100	100 ml	FBS South America, Tetracycline free	16
S181T-500	500 ml	FBS South America, Tetracycline free	16
S1860-100	100 ml	FBS South America, Ultra-low Endotoxin	13
S1860-500	500 ml	FBS South America, Ultra-low Endotoxin	13

## Glossary (by catalog n°)

CAT N°	Unit / Size Product	page
S2000-100	100 ml Goat Serum	18
S2000-500	500 ml Goat Serum	18
S2140-100	100 ml Rat Plasma w/ Lithium Heparin	19
S2150-020	20 ml Rat Serum	18
S2150-050	50 ml Rat Serum	18
S2150-100	100 ml Rat Serum	18
S2150-500	500 ml Rat Serum	18
S2160-020	20 ml Mouse Serum	18
S2160-050	50 ml Mouse Serum	18
S2160-100	100 ml Mouse Serum	18
S2160-500	500 ml Mouse Serum	18
S2162-100	100 ml Mouse Plasma w/ Lithium Heparin	18
S2170-100	100 ml Donkey Serum	18
S2170-500	500 ml Donkey Serum	18
S2300-500	500 ml Lamb Serum	18
S2350-500	500 ml Sheep Serum	18
S2400-500	500 ml Pig Serum	18
S2450-010	10 ml Guinea Pig Serum	19
S2450-100	100 ml Guinea Pig Serum	19
S2500-500	500 ml Rabbit Serum (France Origin)	18
S2800-100	100 ml Cat (Feline) Serum	18
S2900-050	50 ml Dog (Canine) Serum	18
S2900-100	100 ml Dog (Canine) Serum	18
S4140-100	100 ml Human Serum Converted	19
S4180-100	100 ml Human Plasma pooled	19
S4180-500	500 ml Human Plasma pooled	19
S4190-100	100 ml Human Serum AB male HIV tested	19
S4200-100	100 ml Human Serum HIV tested	19
S6010-050	50 ml Free Add IX	19
X0112-500	500 ml Earle's Balanced Salts 10X w/ Calcium w/ Magnesium w/o Sodium Bicarbonate	40
X0113-500	500 ml Earle's Balanced Salts 10X w/o Calcium w/o Magnesium w/o Sodium Bicarbonate	40
X0507-500	500 ml HBSS 10X w/o Calcium w/o Magnesium w/o Sodium Bicarbonate w/o Phenol Red	41
X0509-500	500 ml HBSS 10X w/ Calcium w/ Magnesium w/o Sodium Bicarbonate w/ Phenol Red	41
X0510-500	500 ml HBSS 10X w/o Calcium w/o Magnesium w/ Sodium Bicarbonate w/o Phenol Red	41
X0513-500	500 ml HBSS 10X w/o Calcium w/o Magnesium w/o Sodium Bicarbonate w/ Phenol Red	41
X0515-100	100 ml Dulbecco's Phosphate Buffered Saline 10X w/o Calcium w/o Magnesium	39
X0515-500	500 ml Dulbecco's Phosphate Buffered Saline 10X w/o Calcium w/o Magnesium	39
X0520-500	500 ml Dulbecco's Phosphate Buffered Saline 10X w/ Calcium w/ Magnesium	39
X0550-100	100 ml L-Glutamine 100X, 200mM	49
X0551-100	100 ml Glutamine stable 100X, 200mM	49
X0556-100	100 ml MEM Vitamins 100X w/o L-Glutamine	48
X0557-100	100 ml MEM non Essential Amino Acids 100X w/o L-Glutamine	48
X0915-100	100 ml Trypsin 2.5 % in PBS w/o Calcium w/o Magnesium w/o Phenol Red	47
X0920-100	100 ml Trypsin 2.5 % in HBSS w/o Calcium w/o Magnesium w/o Phenol Red	47
X0930-100	100 ml Trypsin-EDTA 10X	47





# Notes

A series of horizontal lines for taking notes, spanning the width of the page below the 'Notes' header.



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